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Monograph 1979-1

The Implications of Managed Floating Exchange Rates for U.S. Trade Policy

By Isaiah Frank

Charles Pearson

James Riedel

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Preface

Between 1971 and 1973 the Bretton Woods international monetary system broke down. The centerpiece of that system had been fixed exchange rates that could only be adjusted to correct a "fundamental disequilibrium" in a country's external payments position. Adoption in 1973 of a system of managed floating exchange rates marks a watershed in the post-war evolution of international monetary relations.

The central issue addressed in this study is the implications of the transformation of the international monetary system for U.S. trade policy. These implications have two dimensions. First, what role does trade policy have in macro economic adjustments under managed floating? Second, how does managed floating affect the conduct of trade policy for micro economic purposes? Clearly, the purposes and functioning of trade policy are different under the two exchange rate regimes, and the implications of the move to managed floating need to be examined.

Consideration is also given to two other major developments that have profoundly affected the relation between international monetary and commercial policies. The first was the OPEC oil price increase which massively altered the structure of world trade and payments and placed a heavy and unanticipated burden on the adjustment mechanisms of the reformed international monetary system. The second development is the growing intervention of governments in economic affairs everywhere, a development which raises the question of the reconcilability of such intervention with the continued maintenance of a liberal economic order.

Chapters I reviews the collapse of the Bretton Woods system, and examines the challenges posed by the oil price increase and the increasing role of government in economic affairs. Chapter II analyses the international monetary system and exchange rate practices since generalized managed floating emerged in 1973 with a view toward identifying commerical policy implications. Chapter III provides a theoretical analysis of commercial policy under floating rates, and Chapter IV reviews the implications for U.S. trade policy.

Three basic conclusions emerge. First, floating rates have not eliminated concern for the structure of the balance of payments. Second, across-the-board trade measures such as general export subsidies have less justification and are less effective in a managed floating system. Third, floating exchange rates alter the relative effectiveness of alternative trade policy tools, (e.g., tariffs and quotas).

The basic research for this study was done in the summer of

1977. Despite strains on the system at that time, it appeared that floating rates were to be the dominant exchange regime in the foreseeable future. Since then some of the strains have abated, mainly the OPEC surplus, while others have intensified, as reflected by the massive U.S. trade deficit and the extreme weakness of the dollar. Actions undertaken by the U.S. in November 1978 in support of the dollar could mark a turning point away from floating toward greater management of currency values. The fundamental policy of the U.S. toward exchange rate flexibility is still uncertain. Nevertheless, the system will continue to have greater flexibility than in the Bretton Woods era, and the relations between managed floating and commercial policy remain an important issue.

I. Challenges to Economic Liberalism in the World Economy and International Monetary Reforms

I. Introduction

March 1973 is a watershed date in post-war economic history marking the final abandonment of the arrangements that had governed international monetary relations since the end of the Second World War. In 1944, it was agreed at the International Monetary and Financial Conference held at Bretton Woods, New Hampshire that currency exchange rates should be maintained through government intervention in foreign exchange markets at fixed rates, and should be subject to change only in the event of a "fundamental disequilibrium." By March 1973, the United States had discontinued the convertibility of the dollar into gold, and most other major trading nations had abandoned their commitment to maintain the dollar parity of their national currencies.

A fundamental transformation of the international monetary system has widespread ramifications, affecting consumers, producers, international traders and investors and, of course, the way in which a country conducts economic policy. This study examines the implications for United States international commercial policy.

The interrelationship between recent changes in the international monetary system and the conduct of commercial policy cannot be viewed in isolation, since both commercial and monetary relations are currently being affected by at least two other major developments in the world economy, one abrupt and dramatic, the other gradual but profound. The dramatic development is, of course, the OPEC administered oil-price increase, which precipitated massive alterations in the structure of international trade and payments. The gradual, more evolutionary development, which will prove (and indeed is proving) to be a profound challenge to international economic relations, is the growing intervention of governments into the economic affairs of countries everywhere.

After reviewing the collapse of the Bretton Woods monetary system, this chapter examines the challenges posed by the oil price increase and the increasing role of government in economic affairs to the spirit of economic liberalism. From this review emerge some of the major issues facing United States commercial policy in the current era of "managed floating" exchange rates, and the questions that this study will address in succeeding chapters.

II. Collapse of the Bretton Woods System

The design of the international monetary system that became known as the Bretton Woods system was well underway before WWII ended. The vision at Bretton Woods was one of a liberal world economic order that would nurture prosperity through international trade and investment. The designers of the international monetary system had very much on their minds the disastrous experience of the interwar years — depression and unemployment made worse by international economic warfare. Concern to preserve the freedom to use monetary and fiscal policy to regulate aggregate demand and the level of employment ruled out a return to the gold standard or any other system of rigidly fixed exchange rates. On the other hand, the concern to avoid repeating the self-destructive "Beggar-My-Neighbor" trade policies and competitive devaluations of the 1930s seemed to the Bretton Woods designers, rightly or wrongly, to rule out freely floating exchange rates or an independent adjustable fixed rate system [Willet, 1977]. The compromise between national sovereignty and international responsibility was met by a system of "fixed, but adjustable" exchange rates, to be looked after by a newly created international organization, the International Monetary Fund (IMF).

The success of the architects of the postwar economic order in creating a liberal economic environment and fostering world trade and investment has been unprecedented. Through cooperation within the IMF, the currencies of major trading nations have been made freely convertible, and resort to restrictive exchange controls has been largely avoided. Moreover, within the IMF sister organization, the GATT, multilateral trade negotiations have reduced tariff levels among industrialized nations to historical lows. (See Chart 1).

Cooperation in creating a liberal economic environment has led to unprecedented expansion of world trade and income. (See Tables 1-1 and 1-2.) Since 1955, world trade (in constant prices) has grown at a compound annual rate of 7 percent, while world income (in constant prices) has grown over the same period at a 4 percent compound annual rate.

Despite these tremendous accomplishments, the Bretton Woods system was not without shortcomings which were apparent from the outset. Postwar reconstruction of Europe and Japan required massive imports of goods and services that only the United States was capable of supplying. Yet, the war-torn nations lacked both the capacity to earn foreign exchange (dollars) and the reserves to finance trade deficits. The IMF, launched with the modest resources of $9 billion in gold and foreign exchange, was incapable of providing the necessary finance. In this instance, the system was rescued by the United States which responded to

the "dollar shortage" abroad with direct financial assistance through the Marshall Plan and other aid programs.

When the weakness of the system again became apparent in the 1960's, the symptom had reversed from "dollar shortage" to "dollar glut." The rapid recovery of Europe and Japan whittled away the large U.S. trade surplus. The decade of the 1960's also witnessed a phenomenal expansion of U.S. private direct investment abroad, adding to the deficit in the capital account of the U.S. balance-of-payments. (See Table 1.3). The counterpart of the diminishing trade surplus and rising long-term capital account deficit was growing U.S. financial liabilities to the central banks of the surplus nations, which continued to support the dollar by absorbing their excess dollar earnings at fixed and clearly overvalued dollar rates of exchange. As U.S. liabilities to the rest of the world mounted, the credibility of the U.S. as the world banker began to wane. And, with the loss of confidence in the dollar, speculative capital movements were set in motion, exacerbating the situation, and in fact eventually fulfilling expectations that the system would collapse.

In theory the problem of "dollar glut" was no more intractable than that of "dollar shortage," although it proved so in reality. The reason the problem went unresolved and eventually destroyed the system was that no one was willing to accept responsibility, as the United States had done earlier, to save the system. In fact, the United States was in a less favorable position than were the surplus nations to correct the growing imbalance in world payments because of an inherent anomaly within the system. Since under the Bretton Woods system the value of each country's currency was fixed in terms of gold, the U.S. could have unilaterally attempted to correct the growing surplus of dollars abroad by increasing the dollar price of gold, thereby reducing the foreign currency price of dollars (and the relative price of U.S. goods and services). However, because most countries pegged the value of their currencies, *de facto*, to the dollar (their principal reserve asset), it is not at all clear that such a move on the part of the U.S. would have effected a realignment of exchange rates. In any case, increasing the dollar price of gold did not present an attractive solution either to the U.S. or to the surplus nations for political as well as economic reasons. Thus, with the U.S. constrained in its ability to unilaterally alter exchange rates, the responsibility for initiating adjustment fell squarely on the shoulders of the surplus countries.

Unfortunately, and herein lay the weakness of the system, the surplus countries could avoid the burden of adjustment by simply accumulating reserves while at the same time offsetting the domestic inflationary effects of reserve accumulation by contracting credit through domestic monetary channels. Limited availability of reserve assets imposed a much harsher discipline on deficit countries, except of course in

the case of the reserve-currency country itself (the United States), which by virtue of its special role could continue to run balance-of-payments deficits by in effect creating reserve assets in other countries. Thus, as a consequence of the lack of an automatic fail-safe adjustment mechanism, and the inability of the U.S. and unwillingness of the European countries to initiate realignment of exchange rates in the face of a growing "fundamental disequilibrium," the system was led to the brink. When at last countries came together to resolve the problem at the Smithsonian Conference in December 1971, the solutions offered were a clear case of "too little, too late."

The long-drawn-out process of the death and burial of the fixed exchange rate system occasioned considerable backsliding from the spirit of Bretton Woods. With exchange rate adjustment treated as a measure of last resort, countries turned increasingly in the 1960's and early 1970's to restrictive trade practices and capital controls as a means of correcting or suppressing, if only in the short-run, balance-of-payments difficulties. Reform of the international monetary system through the adoption of floating exchange rates should, by making the adjustment process more automatic, help to eliminate the need to resort to such measures. As such, recent changes in the system may have been necessary for the preservation of the liberal international economic order created at Bretton Woods. Yet, as was inevitable and perhaps desirable, reform has fallen short of creating a pure floating exchange rate system. Therefore, before any conclusions can be drawn regarding the implications for commercial policy, a thorough assessment of the international monetary system as it currently exists is in order. That is our task in the next chapter. It is followed by an examination of the relationship between commercial policy and managed floating exchange rates in Chapter III, and a review of the implications for U.S. policy in Chapter IV.

III. The Oil Price Increase

A more dramatic threat to the established international economic order has arisen from the precipitous oil price increase of 1974. Never before had such a change occurred in the structure of world trade and payments. In one year, between 1973 and 1974, the oil revenues of the OPEC countries increased almost four-fold, from $25 billion in 1973 to about $95 billion in 1974. The inability of the OPEC countries as a group to absorb more than one-third of the goods and services their higher priced oil earned (in 1974) meant that the rest of the world as a whole was spared a good deal of the burden, at least immediately, of adjusting production and consumption to pay for oil imports. Nevertheless, the dramatic changes that occurred in the structure of the balance-of-payments of a large number of oil-importing countries gave rise to

considerable fear that the international monetary system would become unstable and that countries would resort to restrictive trade practices and capital controls to combat mounting deficits caused by the increased price of oil.

TABLE 1.1
World Trade: Imports[1]
(In billions of U.S. dollars)

	1955	1960	1965	1970	1975	1976
United States	12.5	16.3	23.2	42.4	103.4	129.4
Canada	5.0	6.2	8.7	14.4	35.4	39.3
Japan	2.5	4.5	8.2	18.9	57.8	65.3
European Community	32.1	57.2	87.7	149.0	388.6	439.8
Other developed	12.8	11.6	19.3	29.9	114.5	74.6
Developing Countries	23.7	29.6	36.8	56.6	183.5	197.2
Communist	9.8	16.7	23.5	35.5	95.3	102.1
World (Nominal)	98.4	142.1	207.4	346.7	930.3	1047.7
World (Constant 1970 prices)[2]	107.0	157.9	223.0	346.7	430.7	—
Compound Real Growth over Preceding 5 yrs. (%)	—	8.1	7.2	9.2	4.4	

[1] Current prices.
[2] Deflated by the unit value index of world imports excluding centrally planned economies.

Source: *International Economic Report of the President* January 1977; *UN Statistical Yearbook*, 1965, 1976.

TABLE 1.2
World Income
(In billions of U.S. dollars)

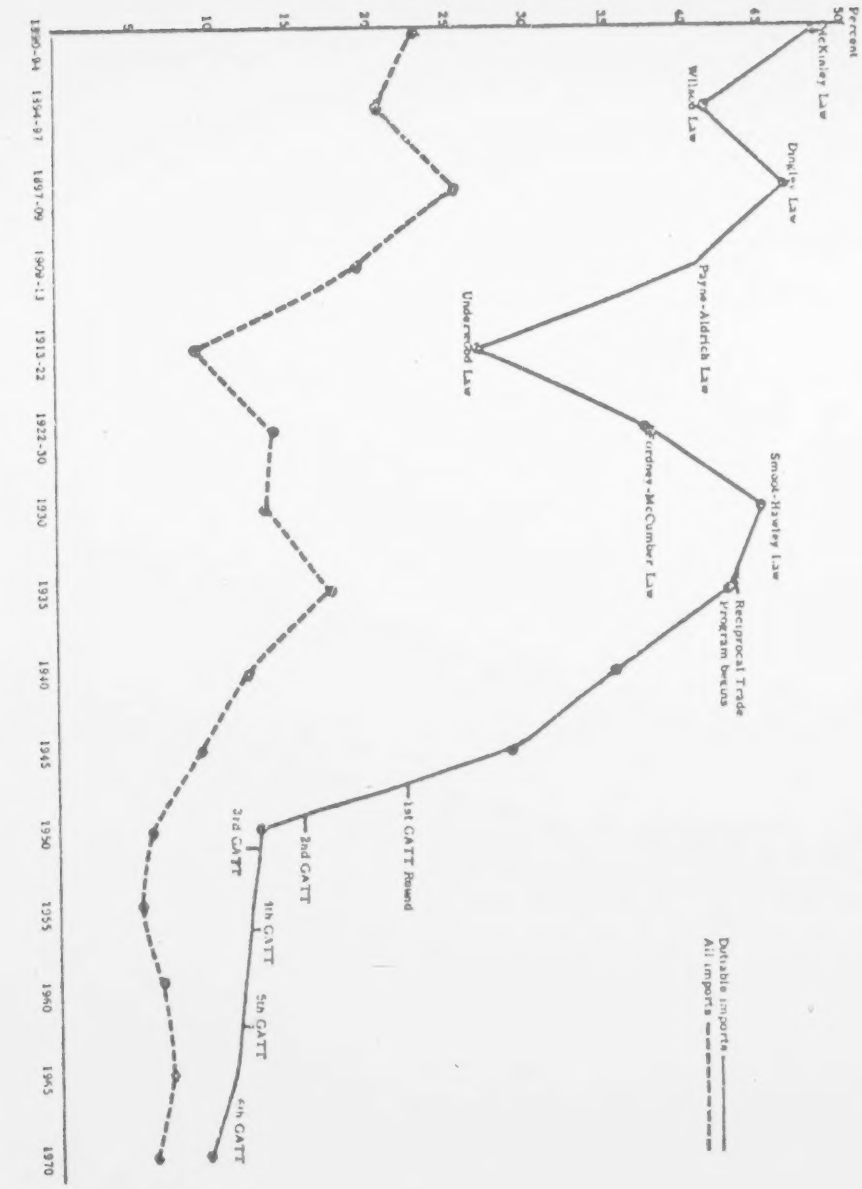
	1955	1960	1965	1970	1975	1976
United States	399	506	688	982	1516	1692
Canada	29	39	51	82	158	171
Japan	24	43	89	196	488	549
European Community	193	263	411	628	1371	1475
USSR	153	228	329	516	866	937
China	48	70	96	159	301	310
World (Nominal)	1110	1500	2200	3250	6200	6800
World (Constant 1970 prices)	1692	2027	2588	3250	3827	—
Compound Real Growth Over Preceding 5 yrs. (%)	—	3.7	5.0	4.7	3.3	—

[1] Current prices
[2] Deflated by Implicit World GNP deflator.

Source: Same as Table I-1

CHART 1

Average U.S. Duty Collection: 1890–1970



Note: Calculated as the ratio of total duties collected on imports to the value of (a) all dutiable imports and (b) total imports

Source: United States Tariff Commission, *Trade Barriers: Report to the Committee on Finance of the U.S. Senate and its Subcommittee on International Trade on Investigations* 332–66 and 372–67, Publ #665, Washington, D.C., April 1974.

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TABLE 1.3

U.S. Balance of Payments Summary

[In billions of U.S. dollars]

	Balance of goods, services, and private remittances	Current account balance[1]	Basic balance[2]	Official reserve transactions balance[3]
1950	1.4	−2.1	−3.2	
1951	3.3	.3	−.3	
1952	1.8	−.2	−1.6	
1953	−.1	−1.9	−2.6	
1954	1.3	−.3	−.9	
1955	1.6	−.3	−1.3	
1956	3.5	1.7	−.9	
1957	5.2	3.6	−.3	
1958	1.6	Negl.	−3.5	
1959	−.5	−2.1	−4.3	
1960	3.4	1.8	−1.2	−3.4
1961	4.9	3.0	Negl.	−1.3
1962	4.4	2.4	−1.0	−2.7
1963	5.1	3.2	−1.3	−1.9
1964	7.7	5.8	−.1	−1.5
1965	6.1	4.3	−1.8	−1.3
1966	3.5	1.6	−2.6	.2
1967	3.1	1.3	−4.0	−3.4
1968	.4	−1.3	−2.3	1.6
1969	−.3	−2.0	−3.9	2.7
1970	1.5	−.3	−3.8	−9.8
1971	−1.8	−3.9	−10.6	−29.8
1972	−7.5	−9.7	−11.1	−10.4
1973	2.3	.3	−1.0	−5.3
1974	2.1	−3.4	−10.7	−8.4
1975	15.2	12.4	2.7	−.1
1976	2.6	−1.4		
1977	−16.4	−20.2		

[1] Includes goods, services, private remittances and government transfers.
[2] Includes current account and long-term capital
[3] Includes current account and all capital flows except those of official monetary authorities

Source: International Economic Report of the President, January, 1976, and *Survey of Current Business*, March 1978.

Fear that the oil price increase would undermine the evolving international monetary system has fortunately so far proven unfounded. In no small part the system was rescued by the revival of the spirit of cooperation dormant somewhat during the breakdown of the Bretton Woods system. Meeting in February, 1974, the Committee on the Reform of the International Monetary System (the Committee of Twenty) endorsed a plan recommending that countries finance oil deficits by external borrowing, principally from the OPEC countries themselves, rather than to

adjust the current account or draw on reserves. Efforts were immediately taken to raise funds from OPEC and the industrialized nations for an IMF Oil Facility to make low-interest loans to countries with inadequate access to international capital markets. In addition to official cooperation, private financial institutions responded with unexpected speed and efficiency by "re-cycling" OPEC surplus earnings to deficit countries.

The fear that trade deficits caused by the oil price increase would prompt countries to resort to restrictive trade measures and capital controls has a better foundation. The existence of a large trade deficit, even though it may be strictly an oil price phenomenon and be fully matched by a capital account surplus, can provide a powerful argument for special interest groups seeking protection from international competition. Secondly, domestic policy-makers might be persuaded by the existence of a trade deficit, even though caused by the oil price increase, to use restrictive trade measures as a means of increasing the level of aggregate employment or improving international competitiveness. And, thirdly, some may question the justice of shifting to future generations the burden of paying for current excess purchases from the rest of the world, and might as a consequence propose commercial policy measures to alter the structure of the balance-of-payments.

A perhaps more fundamental problem under the current international monetary system is the effect of capital movements occasioned by OPEC trade surpluses on the structure of exchange rates among countries. Countries that attract more than their share of OPEC lending may find their currencies appreciating in value and their trade competitiveness deteriorating as a consequence. On the other hand, countries that are unable to attract capital to fully finance oil deficits and are either unable or unwilling to use reserves, may experience currency depreciation. Either of these developments could give rise to stop-gap trade measures designed to protect current-account balance from exchange-rate changes. Whether such measures are justified given the unique nature of balance-of-payments problems created the oil price increase, and whether trade measures are likely to be effective under the current international monetary system are questions that arise recurrently in successive chapters of this study.

IV. The Increasing Role of Government in Economic Affairs

A threat to the postwar spirit of economic liberalism that is perhaps more serious and certainly more complex than that associated with the collapse of the Bretton Wood system has evolved from the increasing role that governments are claiming in the economic affairs of their countries. Because of the interrelatedness of economic activities, virtually all of the countless ways that governments intervene affect

international trade to some extent. A contractionary monetary policy, for example, which might be motivated principally to dampen domestic inflation, will affect exports and imports by altering relative prices of foreign and domestic goods. An investment tax credit aimed at stimulating the level of aggregate employment implicitly subsidizes capital-intensive industry and hence affects international comparative advantage. Even such diverse measures as pollution controls, minimum wages and restrictions on child labor have profound effects on the international competitiveness of certain industries [Cooper, 1978]. Thus, although the focus of this study is commercial policy (i.e. those measures bearing directly on foreign trade), the issue must be considered in a broader context.

The economics of the issue of government intervention, either in foreign trade or the domestic sector, have become exceedingly more difficult since economists abandoned the simplifying assumptions underpinning the argument for *laissez faire*. Today it is accepted that the outcome of unfettered market forces does not always reflect the best use of scarce resources from the point of view of society as a whole. In such circumstances where there is a divergence between private and social valuation of the costs and benefits of consumption or production, economic and social welfare is served by governmental intervention. The critical challenge to policy-makers is to interpret "social costs and benefits," and to distinguish what is in the interest of "society" from the demands of self-seeking interest groups. Accepting that social demands are reflected through the political process in the governmental decision to intervene or not to intervene in the market place, the issue relevant to economic analysis is not so much whether government should intervene, but rather how government should best go about it.

The problem is complex because government has at its disposal alternative policy-tools for dealing with given economic objectives. For example, if the objective is to maintain a degree of self-sufficiency in, say, the steel industry, government might provide the industry with a general subsidy to production, thereby underwriting part of the industry's costs and enhancing its competitiveness vis-à-vis foreign suppliers. Alternatively, government might impose a tariff on steel imports, thereby enabling the domestic industry to cover its excessive costs by selling at a higher price. Both policies would appear to be equally effective in terms of guaranteeing the competitiveness of the industry.

But are these policy measures equally efficient? Generally the imposition of a tariff or a quota on imports will result in an increase in the domestic price of foreign goods as well as those produced domestically. There is less likelihood that the provision of a subsidy will lead to a price increase since domestic producers will still face foreign competition at unchanged world prices. Thus, the subsidy, because it leaves prices

unaffected, adjusts the level of production without affecting the level of consumption. This is not the case with a tariff (or a quota), however, which because it leads to a price increase, supports domestic production at a cost to domestic consumers of the protected good. If the objective of policy were to simply correct the level of domestic production leaving the level of domestic consumption unaffected, then clearly the subsidy is the most efficient policy instrument.

This conclusion is consistent with the general proposition that the most efficient policy measures are those that have their direct impact as close as possible to the source of the market distortion that they are designed to correct [Corden, 1974]. In accordance with this principle, commercial policy tools are always "second-best" to domestic policy measures for dealing with inherently domestic economic objectives. Trade policy measures are "first-best" only when the objective of policy is to correct a distortion in international markets. If, for example, a domestic industry is injured by the unfair trade practices of foreign competitors, then the most efficient remedy is to restrict imports, not to shore up the industry by direct governmental subvention.

Most trade policy measures in the United States, and elsewhere, are motivated by essentially domestic economic objectives.[1] An important reason is that policy-makers weigh political as well as economic advantages and disadvantages in choosing among alternative tools; and the political reality is that trade measures, because they are less transparent, are easier to justify to constituents than outright industrial subsidies. The political advantage of using trade measures for domestic economic objectives derives in fact from the very source of their economic disadvantage, the fact that they affect domestic consumers and producers only indirectly through their impact on foreign trade. It must be recognized as well that trade measures are often easier to administer, and do not require budget appropriations as do direct subsidies. Nevertheless, at least in industrialized countries, the political advantages are the main reason that policy-makers turn to trade measures for domestic economic objectives.

Economists are wont to dismiss political considerations and to insist that only economic costs and benefits should be weighed in choosing among alternative policy tools. This approach can be counter-productive; given the legitimacy of a policy objective, when a "first-best" policy measure is not feasible, for political or economic reasons, a "second-best" measure is often better than doing nothing at all. What can and should be insisted upon, however, is that policy-makers take full cognizance of the economic opportunity costs of their policy decisions.

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[1] For example: to support sensitive defense industries, to avoid costly adjustments arising from abrupt loss of competitiveness to certain imports, to sustain traditional industries losing long run comparative advantage, etc.

And, further, when the underlying circumstances in which policy is conducted change, it is expected that policy-makers reassess their position.

It is in this spirit that the present study is conducted. The abandonment of the Bretton Woods agreements in favor of a generally floating exchange rate system is certainly a change in underlying circumstances of sufficient importance to warrant a reassessment of trade policy.

II. The International Monetary and Exchange Rate System

This chapter examines the operation of the international monetary system, and especially exchange rate practices, since generalized managed floating emerged in March 1973. Our purpose is not to present a comprehensive evaluation, which would include the impact on inflation, international liquidity etc., but to focus on those aspects of the monetary system directly related to commercial policy.

The actual operation of a managed floating exchange rate system can be quite different from idealized textbook explanations of floating exchange rates. The textbook case assumes that private market forces completely determine the exchange rate without any government intervention, and that through the free movement of the exchange rate, the balance of payments automatically adjusts to any disturbance. In contrast, in the current managed floating system many countries have abandoned fixed parities, but central banks continue to intervene actively in exchange markets to affect currency values. Also, the present system continues to exhibit major balance of payments disequilibria, or imbalances in countries' foreign accounts. Conclusions concerning U.S. commercial policy should reflect our actual experience with managed floating and not purely textbook theory.

I. Background

An overview of the operation and subsequent collapse of the Bretton Woods system was provided in Chapter I. A more thorough examination is necessary to understand fully the present international monetary system. In the Bretton Woods system currencies were pegged within narrow bands to established parities by central bank intervention in exchange markets, but the parities could be changed in the event of "fundamental disequilibrium." A basic reason for the collapse was an incompatibility among three major elements of the international monetary system as it then existed: highly mobile capital flows among countries; a desire to use monetary policy for domestic macroeconomic objectives of price stability and full employment; and a commitment to maintain fixed exchange rates. The incompatibility arose, for example, when restrictive monetary policy induced large inflows of capital seeking high interest rates or for speculative reasons. To maintain the commitment to fixed exchange rates, the central bank was obliged to buy up

excess foreign exchange and perhaps expand its domestic money supply beyond the needs of the domestic economy. In the case of a country seeking domestic expansion, monetary ease and relatively low interest rates could induce large outflows of interest sensitive and speculative capital, with a consequent deterioration of the balance of payments. A reversal of domestic policy would then be required to stabilize the currency at the fixed exchange rate.

The result in both cases was some loss of control over the domestic economy. As a consequence, throughout the 1960's governments undertook a series of measures to circumvent or moderate the difficulties posed by the incompatible elements of the system. In the United States and other countries these measures included restrictions on capital outflow and trade policies motivated by balance of payments concerns. In some instances countries sacrificed domestic economic objectives to maintain currency parities. When pressures became too great, abrupt devaluations and revaluations were forced on countries, usually accompanied by a crisis atmosphere in the exchange markets.

The incompatibility of basic elements of the Bretton Woods system was aggravated by certain asymmetries that were alluded to in the previous chapter. First, the pressures on surplus and deficit countries differed sharply. Deficit countries were compelled to adjust when their foreign exchange reserves and borrowing abilities ran low, while surplus countries did not face the same compulsion. But in a closed system the reduction of deficits by some countries requires that other countries reduce their surpluses. There was, therefore, tension between surplus and deficit countries.

Second, there were asymmetrical opportunities and restrictions imposed on the United States, whose currency was used as an international reserve by other countries. A reserve currency country such as the U.S. was not under the same balance of payments discipline as other countries, as our deficit provided international reserves to the system. European critics pointed to sustained U.S. balance of payments deficits and dollar outflows as inflationary for their economies. But as a reserve currency country the U.S. felt it could not use the exchange rate to adjust. Thus tension existed as well between the major reserve currency country and other countries.

The final asymmetry concerned foreign exchange speculation. When currency values are pegged within narrow bands by central banks, private speculators face essentially a one-way movement in the currency's parity, and hence bear virtually no risk. A strong currency held at the top of its band by central bank purchases of foreign exchange is an open invitation for private speculators to buy, and a weak currency near the bottom of its band is an invitation to sell. By the end of the 1960's the volume of speculative capital flows could overwhelm most central

bank holding operations. The result was disruption in currency markets followed by eventual exchange rate change. It is not necessary to attribute pernicious motives to speculators. Prudent management of international funds requires private financial officials to avoid weak currencies and seek strong ones. But the asymmetrical risk encouraged large speculative capital flows.

In looking at the period since managed floating emerged in 1973 several factors should be kept in mind. Perhaps the most important is the massive oil price increase, and its effects on international trade and financial flows. There are two fundamental implications. First, there was a dramatic shift in the source of the world's international savings. Before the price increase the major world savers were the OECD countries taken as a group, and their international savings were channeled in various forms of lending and aid to the non-oil exporting developing world. The "normal" balance of payments for the OECD was, then, a current account surplus through which real resources were transferred to developing countries, and a capital account deficit that provided the financing to developing countries. Major oil exporters in this period were neither large borrowers, nor lenders. After 1973 the situation changed dramatically. From 1974 through 1977 the industrial countries taken as a group lost their role as the world's savers, and except for the recession year of 1975, had close to zero current account balance. Oil exporting countries as a group, however, had current account surpluses averaging annually about $45 billion, and were the major international savers. Their surplus declined in 1978 to a projected $10 billion (but may increase again). Japan emerged in 1978 as the major world saver ($20 billion).

The consequence of this shift was that international financial markets recycled OPEC surplus funds both among OECD countries and to non oil exporting developing countries in massive amounts. The capital flows associated with both the primary deposit of surplus OPEC funds in industrial countries' capital markets and the subsequent relending to deficit countries has had a profound effect on the capital account of the U.S. balance of payments, both inflows and outflows, and on exchange markets and currency values generally. While the quadrupling of oil prices occurred after the collapse of the adjustable peg exchange rate system, it is doubtful that the old system could have prevailed during the period in which the world has had to adjust to higher-priced oil.

The second fundamental implication of the oil price increase was the creation of a surplus (and hence deficit) in global payments balances, that was "unadjustable" in the short term. The surplus was a structural imbalance. Because the oil surplus has been concentrated in a small number of countries whose import capacity is limited, it was neither feasible nor desirable to look for ways to adjust immediately the OPEC current account surplus. Certainly an exchange rate change between

OPEC countries and the rest of the world would not have produced adjustment. Nor was deliberate deflation in oil importing countries desirable, although the unanticipated recession did cut oil imports.

The oil price increase is only one factor that should be kept in mind when assessing managed floating rates. The period of floating has also coincided with levels of inflation and recession unprecedented in the post war period. These economic disturbances are closely related to the oil price increase and to the operation of the managed floating exchange system, and we return to them as we evaluate recent experience. Finally we note the emergence in 1977 and 1978 of a serious imbalance in the U.S. (a deficit) and Japan (a surplus) that floating rates have not yet corrected.

II. Relation of a Managed Floating System to Trade Policy

In assessing the implications of a managed floating exchange rate system for U.S. trade policy, three aspects of the operation of the system are important: incomplete balance of payments adjustment; stability of the dollar; and concern for the structure of the U.S. payments balance. We first explain why these three aspects are important, and then assemble some evidence concerning them.

Incomplete Balance of Payments Adjustment. The term balance of payments adjustment, or for short, adjustment, is the process wherein a country's foreign economic transactions on both capital and current account are brought into alignment so that the outflow of funds for international trade and investment purposes is equal to the inflow (subject to some "normal" reserve accumulation). For example, a country with a high inflation rate will find itself increasingly uncompetitive in world markets and hence experiencing a trade deficit. If the adjustment process is working well, the change in relative international prices occasioned by the inflation will set in train forces which restore the initial price relations and tend to correct the trade deficit. The forces, either automatic (i.e., not the result of deliberate government action) or induced by policy (e.g. deflation measures), can work in both surplus and deficit countries, and can affect both prices and levels of real expenditure. Adjustment should be distinguished from policies to supress an external disequilibrium — e.g. trade and capital controls for balance of payment purposes.

The great advantage of a floating exchange rate system was to have been that the adjustment would take place automatically through currency appreciations and depreciations, removing the need for otherwise undesirable trade and capital controls, and allowing governments to concentrate their policies on domestic economic needs. Thus if the adjustment process is working well, trade measures for balance of payments purposes are unnecessary and undesirable.

There are several reasons in addition to the OPEC surplus, why adjustment is incomplete in the current situation. Not all countries are floating. To the extent that other countries continue to peg their currencies to the dollar, and the pegged rates do not reflect the "equilibrium" price for their currencies, then the U.S. itself will not be in equilibrium and our balance of payments cannot make a complete adjustment.[1] Moreover, in the current situation with some countries floating and some pegging to the dollar, the value of the dollar against *floating* currencies is affected by the action of the peggers and thus both the commodity and geographic structure of our trade with all countries is altered. For example, if countries pegging to the dollar maintain undervalued currencies, the dollar becomes overvalued and this affects the level and composition of our trade with all other countries. Because commercial policy is concerned with the composition of trade as among commodities and to some extent by geographic region, the extent of currency pegging is relevant to the conduct of our commerical policy.

A justification for using commerical policy for balance of payments purposes *might* also emerge form "excessive" management of currencies. Even if a large number of countries do not formally peg their currencies against the dollar, some may still intervene heavily in exchange markets in a fashion that goes beyond day to day smoothing operations. Or they may take less direct measures such as capital controls to manipulate their currency values. The concept and measurement of excessive management is difficult to pin down, and is discussed in more detail below. Here we simply note that sustained intervention by foreign central banks to accumulate dollars, or less direct methods for avoiding appreciating their currencies, will also affect the exchange value of the dollar and make our adjustment more difficult.

Stability of the Dollar. Large swings in the value of the dollar can frustrate anti-inflation policies, can create difficulties for export and import competing firms, and can lead to a misallocation of capital and labor within the economy by giving incorrect price signals to business. The stability of the dollar is relevant for international commercial policy whatever the cause of fluctuations — that is, whether or not the fluctuations are the result of speculative capital flows, and whether or not the current system exhibits greater fluctuations than an adjustable peg system would have, had it continued.

But movements in the exchange value of the dollar, however large, if reflecting real changes in the competitive and financial position of countries, are the *response* to shifts in fundamental economic condi-

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[1] An equilibrium exchange rate is defined as the rate that would prevail if governments did not intervene in exchange markets to affect currency values, if no special measures such as trade controls were undertaken for balance of payments purposes, and if there were no destabilizing speculative capital flows. As the equilibrium rate is hypothetical and not an observed rate, its value is open to controversy.

tions. In general such movements should be welcomed as means of adjustment rather than viewed as undesirable and destabilizing. Thus for evaluation of the managed floating system it is necessary to consider whether fluctuations represent the effect of destabilizing speculative capital movements (driving the exchange rate away from its [hypothetical] equilibrium rate), or whether the fluctuations merely reflect underlying fundamental shifts.

Choosing a benchmark for evaluating currency stability is difficult. Certainly the benchmark against which the stability of the dollar in the current system should be assessed is not perfectly fixed exchange rates, for they did not exist in the earlier system. Also, there is evidence that the underlying economic conditions have become more unstable in recent years.

There are also serious measurement problems for determining dollar stability. Weighted averages of the dollar against other currencies have been constructed, and these are most useful for indicating changes in overall competitive position. But even if the exchange value of the dollar is relatively stable as measured by a weighted average with all trading partners, there can be large swings in bilateral rates with individual trade partners. These swings can affect trade with individual countries and in individual goods. Commercial policy is often concerned with the competitive position of individual commodities and for this reason it is also desirable to measure the degree of stability in bilateral exchange rates for the dollar.

The effectiveness of our existing commercial policies is also affected by the stability of the dollar. If tariffs are set to achieve a desired level of domestic production, then a substantial change in the exchange value of the dollar can either erode or increase the level of protection and hence alter the level of domestic production. The protective effect of U.S. tariffs may decline when the dollar appreciates and increase when the dollar depreciates. This point is discussed in greater detail in Chapter III.

Balance of Payments Structure. Even if the current exchange rate system worked so that there were smooth and full adjustment in our overall balance of payments, and even if the exchange value of the dollar measured either as a trade weighted average or bilaterally appeared satisfactorily stable, there still may be reasons for being concerned with the *structure* of the payments balance, and hence it might appear a further possible justification for the use of commercial policy. Specifically, if the value of the dollar is dominated by capital flows, either related to oil financing or otherwise, there may develop an inconsistency between the desired current account balance and the actual balance that results when the dollar is permitted to float. Similarly, countries may seek some particular pattern for their merchandise trade and invisible (services) account. They may desire a strong trade account, and be reluctant to rely

heavily on services as a balancing item. Indeed, countries may have objectives regarding individual items in their trade account. U.S. concern for oil imports is a good example.

The massive U.S. trade deficit of $31 billion for 1977 was an example of the importance of the balance of payments structure. Because the U.S. current account deficit was approximately matched by capital inflows including placement of surplus OPEC funds in the U.S. (and dollar accumulations by foreign central banks), overall pressure on the dollar was muted through 1976 and the first half of 1977. In turn, the dollar resisted a massive downward movement that would have ultimately tended to improve the competitive position of U.S. export and import competing industries.[2]

We now look in greater detail at the U.S. experience with managed floating exchange rates.[3]

III. Exchange Rate Practices

Since the breakdown of the adjustable par value (Bretton Woods) system, countries have followed a wide range of *de facto* exchange rate practices. Freedom in the choice of exchange rate practices was officially sanctioned at the January 1976 (Jamaica) meeting of the Interim Committee of the Board of Governors of the International Monetary Fund, and the submission of amendments to the IMF in March 1976. The amendments allow for reintroduction of an adjustable par value system by an 85% weighted vote of the IMF, but no countries would be required to do so, and there is little likelihood that such a move is imminent. Rather, countries are free to choose their exchange system but are under obligation to assure orderly exchange arrangements, to promote a stable system of exchange rates, and to avoid manipulation of the rates to prevent effective balance of payments adjustments, or gain an unfair competitive advantage. The practices actually followed range from independent managed floats to joint currency floats, crawling pegs, basket pegging, and individual currency pegging with both wide and narrow bands, and with both frequent and infrequent peg adjustment. Joint or group currency floats are arrangements wherein member currencies are kept within a narrow band vis a vis other members, but the currency group can float against other currencies. Crawling pegs are periodic small adjustments in currency parties. Basket pegging is when a currency is

[2] The U.S. current account was close to equilibrium in 1976. A large capital outflow on private account was offset by increases in foreign official assets in the U.S. In 1977 the current account deteriorated sharply, and was financed by increases in foreign official assets in the U.S. This reflects both OPEC surplus funds and currency intervention by other central banks. On a trade weighted basis, the U.S. dollar appreciated by about 1% in 1976, and declined 2.3% in the first 10 months of 1977. It fell sharply from October, 1977 to March 1978, and again from June to November 1978.

[3] For reviews see Atlantic Council Working Group, 1977; Bernstein et. al., 1976; Fleming, 1975; Habeler, 1977; Halm, 1977; Katz, 1975; Willett, 1977 (B).

pegged against the value of a basket of currencies such as the SDR.

The following table shows the number of countries following each exchange rate practice, and the proportion of U.S. trade with each group. The table is based on 1977 reports of official practices of member countries to the IMF. We stress that the table provides only limited insight, as countries that nominally peg may in practice adjust the peg frequently, or maintain the currency value within wide bands, and thus approach a floating situation. Also nominal floaters may in practice intervene to keep the currency within a narrow band, and thus approach a pegging situation.

The table indicates that the most popular regime remains pegging to the dollar (46 countries) but when placed on a trade basis, 68 percent of U.S. trade is with either floating currencies or group floaters. While the group floaters maintain relatively fixed currency values among themselves, the currency group itself floats against the dollar and therefore contributes to flexibility in the exchange value of the dollar. The European "snake" is a group float. Moreover, non-dollar peggers, mainly SDR and French franc peggers, represent additional flexibility for the U.S. dollar as these currencies move against the dollar as either the base currency or the SDR changes against the dollar.

Heller (1977) provides additional evidence concerning the extent of floating. He has taken a smaller sample of countries (79), accounting for 83% of U.S. trade, and classified them into two groups, floaters (independent floaters, joint floaters, and crawlers), and peggers (single currency and basket peggers) on the basis of the *de facto* exchange rates that existed in June 1976. Using his classification and country sample, we find that 81 percent of U.S. trade (exports plus imports) with the sample countries is with floaters, and 19 percent is with peggers. Accordingly, we conclude that the great bulk of U.S. trade is with countries that are at least nominally floating. This does not, of course, indicate the degree of management in the float.

IV. Management

The correct amount of central bank intervention in exchange markets in a floating system is a particularly difficult concept to specify, much less measure. On the one hand, a strong case can be made for intervention that smooths out unwarranted short term fluctuations in exchange rates. But in doing so the central bank faces the same dilemma as private speculators — uncertainty concerning the underlying equilibrium exchange rate. On the other hand, excessive management, or intervention, can frustrate the appropriate exchange rate movement, and perpetuate disequilibrium rates.

TABLE 2.1
Exchange Rate Regimes

Exchange Rate Practice in Effect June 30, 1977[a]	Number of Countries[b]	Percent U.S. Trade With Each Group (exports plus imports)[c]
Floaters	37	57.7
Group Floaters (snake)	7	10.6
SDR Peggers	14	5.9
Dollar Peggers	46	19.8
Other Peggers	21	.7
Total	127	94.7

Source: IMF *Annual Report 1977*, Appendix Table I.1 and IMF *Directions of Trade*, October 1977

a. Group Floaters: Belgium, Denmark, Germany, Luxembourg, the Netherlands, Norway and Sweden maintain maximum margins of 2.25% for exchange rates among themselves. No margins are maintained for the group against other countries.

SDR Peggers: Currencies are pegged in terms of Special Drawing Rights (SDR's). The value of SDR's is determined by the exchange value of the constituent currencies.

Other Peggers: Mainly pegged to pound sterling, French franc

b. Excludes U.S.

c. Includes 95% of total U.S. trade

The dilemma is illustrated in the IMF's system of surveillance over the exchange rate policies of its members. The IMF's Guidelines for the Management of Floating Exchange Rates, in effect between 1974 and 1978, called upon countries to intervene "as necessary to prevent or moderate sharp and disruptive fluctuations from day to day and from week to week in the exchange value of its currency." The surveillance principles agreed to in April, 1977, and put into effect with the second amendment to the Articles of Agreement, are somewhat broader, stating "A member should intervene in the exchange market if necessary to counter disorderly conditions which may be characterized *inter alia* by disruptive short term movements in the exchange value of its currency." At the same time, the new Article IV states that members shall . . . "avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members."

What factors are to be considered by the IMF in its surveillance? Protracted large scale intervention in one direction, high levels of borrowing for balance of payments purposes, current and capital account

restrictions and incentives for balance of payments purposes, the use of more general monetary and fiscal policies for abnormal capital flows, and exchange rates that appear to behave inconsistently with underlying economic and financial conditions. All of these are matters of judgment, and may indeed become matters of dispute. There is no simple test for "excessive" intervention.

Nor can we easily determine if intervention has led to serious under or over-valuation of currencies since the floating period has started. Certainly, the amount of intervention since the float began has been large, and this is relevant to the continued need for international reserves. But heavy intervention, if on both sides of the market, may not represent disequilibrating intervention but merely the need to smooth sharp short term fluctuations. Also, much of the intervention by the "snake" countries reflects their attempt to maintain a joint float, and should not be considered excessive intervention from the U.S. perspective.

Data on central bank intervention generally are not publicly available.[4] The IMF, in discussing the experience of 1976, states that "Although all countries have at times intervened in their foreign exchange markets, the degree of intervention has differed greatly among countries. Taken as a group, the snake countries have intervened relatively little *vis-a-vis* nonparticipants. [Prior to November 1978] intervention by the U.S. has been infrequent and in small amounts, apart from purchases of foreign currencies to repay swap debts incurred earlier. Canada has engaged in active intervention, but this has not resulted in any substantial net change in reserves. The other major industrial countries and the snake countries individually have at times intervened quite heavily in pursuit of their exchange market objectives." [IMF *Annual Report*, 1976]. The Bank for International Settlements reports "a very heavy volume of official intervention in the exchange markets" in 1976 and the early months of 1977. Some of the intervention was by joint floating countries, but in addition France, Canada, the United Kingdom and Italy were said to have intervened heavily at certain times. [BIS *Annual Report*, 1977]. Intervention continued heavy in 1978 as surplus countries (Germany, Switzerland and Japan) moved to limit appreciation of their currency. U.S. intervention since November 1978 to support the dollar has been substantial.

There have been periods when, in hindsight, a more aggressive intervention policy would have been appropriate. For example, during the second quarter of 1973 central banks restrained their intervention, allowing very sharp increases in the deutsch mark and the Swiss franc, with corresponding fall in the dollar. In retrospect the dollar had

[4] The U.S. does publish data, but our intervention has traditionally been small, with other countries carrying the active role. The *Annual Report* of the Bank for Internaitional Settlements gives some data on intervention but they are incomplete.

become badly oversold before the Federal Reserve and other central banks returned to the market in July of that year.

Data on international reserve holdings by central banks are reported, and at first glance it might appear that analysis of changes in reserve holdings might be used to infer systematic excessive intervention, or currency management. On reflection, however, the use of reserve changes as an analytical tool is quite tenuous, as currency manipulation need not involve official reserves, but can be accomplished by government borrowed funds (and governments are borrowing internationally more heavily for balance of payments financing) and by manipulating the foreign currency holdings of quasi-government bodies. Less directly, exchange rates can be manipulated through incentives and disincentives to private capital and current account transactions and by macroeconomic policies, although the exchange rate result *may* be entirely incidental to the true purpose of the policy. For example, the Bank for International Settlements noted that the exchange value of the French franc was supported during 1976–77 by the use of official reserves as well as substantial support from officially encouraged foreign borrowing by French enterprises, in both the public and private sector. Accordingly, sustained reserve gain or loss provides a weak test of excessive exchange rate management. While not an acid test, sustained reserve change nevertheless does provide *prima facie* evidence for beginning the process of surveillance by the IMF.

We have not been able to derive an unambiguous test of excessive intervention. We have, however, attempted to measure two aspects of intervention. The first measure is designed to group countries according to whether they have relied primarily on exchange rate changes or on reserve changes when confronting an external disequilibrium. The second measure analyzes whether a country's international reserve policy has been consistent with the movement of its currency. Despite strong reservation, both measures use data on reserve changes.

Turning to the first measure, countries have two methods for dealing with payments imbalances; intervention in currency markets reflected (imperfectly) by reserve changes, and exchange rate changes.[5] If all other things are held equal and provided that official intervention is itself stabilizing, we would expect countries that practice extensive management of their currencies to show relatively high fluctuations in reserve holdings, and relatively low fluctuations in exchange rates. In contrast, "free" floaters would show little reserve fluctuation, but relatively stronger fluctuations in their exchange rate. But because some countries face large disequilibria in their external accounts and other

[5] Reserve changes can also reflect accrued interest. Also reserves measured in SDRs can be influenced by changes in the dollar value of SDRs. More generally, intervention and changes in the exchange rate are alternative responses to exchange market disequilibrium, and are only indirectly related to payments disequilibrium.

countries do not, we cannot directly compare reserve fluctuations or exchange rate fluctuations among countries. However, by forming the ratio of exchange rate fluctuations to reserve fluctuations for each country, the differences among countries in the size of their external disequilibria is accounted for, and a comparison of the ratios among countries provides evidence of their preference for floating vs. currency management.

Table 2.2 reports the results of our calculations. Our measure of fluctuation is the coefficient of variation (standard deviation divided by the mean), a statistic that measures the stability or instability of variables, in our case exchange rates and reserves. High values for the coefficient of variation imply instability, low values imply stability. We have used three different exchange rate measures, MERM (IMF's Multilateral Exchange Rate Model), the SDR value of the currency and the dollar value of the currency. We have also broken the floating period into two subperiods, second quarter 1973 — fourth quarter 1976 and first quarter 1977 — third quarter 1978. The break corresponds to sharp weakening of the U.S. dollar.

The results are of some interest. For the initial period the trade weighted exchange rate, MERM, shows the least fluctuations (or the greatest stability) of all three exchange rates for all countries except Canada. This was expected, as the MERM rate is a weighted average of a country's bilateral exchange rates, and thus offsetting movements in bilateral rates are averaged out. The U.K. and Italy show the largest trade weighted exchange rate fluctuations and Canada the smallest. The rankings, however, might change if the fluctuations were adjusted for trend over the period.

Again, for the first period, four countries showed relatively large fluctuations in official reserves — Japan, U.K., Italy and France. The more important measure, however, is the ratio of exchange rate fluctuations to reserve fluctuations, for this reduces the influence of differences among countries as to size of the external disequilibria they face. By this measure two countries, Germany and Italy had the highest ratios, indicating that they have placed strong reliance on exchange rate changes and low reliance on reserve changes as a method for adjustment. Using the MERM exchange rate as the best overall exchange rate measure, France showed the most extensive currency management with a ratio of 0.35 with Japan next at 0.41. In contrast, Italy has a ratio of 0.84 and Germany 1.00.

The situation is less clear cut in the second period. Currency fluctuations were more pronounced for Japan and Canada, but more stable for the U.K., France and Italy, as compared to the earlier period. With regard to management in the latter period, France, Italy and the U.K. appeared to engage in the most extensive management, while

Japan, Canada, and Germany placing greater reliance on exchange rate changes. As explained earlier, these are merely suggestive results.

Our second measure of currency management examines the consistency between reserve changes and exchange rate changes. If central banks attempt to moderate exchange rate fluctuations by selling or adding to their reserves, we should observe increases in reserves when the currency is appreciating, and a loss of reserves when the currency is depreciating. We should not, however, assume that the *degree* of appreciation is necessarily associated with the degree of reserve increase because reliance on one measure reduces the need for the other measure. If, however, we find that a country is gaining reserves at the same time its currency is depreciating, this is *prima facie* evidence that the country is deliberately attempting to gain a competitive advantage by currency manipulation. One simple test is to compute the percent of quarterly periods in which currency values moved in the same direction as reserves. Once again, we use three separate measures of a country's exchange rate, the MERM rate, the dollar rate, and the SDR rate. The results are presented in Table 2.3.

Clearly there is some relation between reserve changes and various exchange rate measures. In all cases except one, reserves and currency values moved in the same direction in over 50% of the periods examined. However, the relationship is not as strong as we expected. In a substantial number of instances countries gained reserves when their currencies were depreciating, and lost reserves when their currencies were appreciating. This seemingly perverse behavior could be explained in part as an attempt by central banks to gain an additional competitive edge when their currencies were under market pressure. But the reasons could also be that the country was borrowing rather than financing the deficit out of its owned reserves. Also, the table is based on quarterly data, and a correspondence between exchange rate and reserve movements within quarterly periods could be concealed. Unfortunately, neither of these statistical measures is adequate to unambiguously identify excessive currency intervention.

One instance which some observers cite as excessive intervention to maintain a disequilibrium rate is Japan during 1976, but the evidence is not conclusive. For the year as a whole, the yen rose in value against the dollar by less than 3 percent while their international reserves grew by 30 percent, and the merchandise trade surplus was $10 billion. Moreover, from September to December 1976 the yen actually depreciated against the dollar. Balanced against this, however, is the fact that the more broadly based MERM rate for the yen did appreciate by over 5% during the period, that Japanese reserves had not recovered the levels obtained in 1971 and 1972, and that their current account surplus in 1976 of $3.7 billion was considerably smaller than their trade surplus. Also,

since January 1, 1977 the yen has been permitted to appreciate by a very large factor. In hindsight it is easy to say that the yen appreciation came at least a year too late, but this was not so obvious at that time.

TABLE 2.2
Analysis of Variation, Quarterly Data, 1973–1978

	1973:02 — 1976:04		1977:01 — 1978:03	
Country Variable	Coefficient of Variation	Ratio of Exchange Rate Variation to Reserve Variation	Coefficient of Variation	Ratio of Exchange Rate Variation to Reserve Variation
Japan Yen/SDR	.43	.462	.098	.435
Yen/US$	.42	.452	.122	.542
MERM rate for Yen	.38	.409	.117	.520
Reserves ($)	.093		.225	
Canada C$/SDR	.035	.761	.075	.675
C$/US$	.018	.391	.035	.315
MERM rate for C$	.024	.522	.052	.468
Reserves ($)	.046		.111	
United Kingdom SDR/Pound	.120	.895	.020	.082
$ / Pound	.136	1.015	.047	.193
MERM rate for Pound	.109	.813	.020	.082
Reserves ($)	.134		.243	
France Francs/SDR	.051	.381	.013	.127
Francs/ $	.061	.455	.041	.402
MERM rate for Franc	.045	.355	.012	.118
Reserves ($)	.134		.102	
Italy Lira/SDR	.127	.927	.013	.060
Lira / $	.138	1.007	.019	.088
MERM rate for Lira	.115	.839	.023	.107
Reserves ($)	.137		.215	
Germany DM/SDR	.043	1.07	.048	.475
DM/ $	.046	1.15	.065	.643
MERM rate for DM	.040	1.00	.032	.317
Reserves ($)	.040		.101	

Source: IMF, *International Financial Statistics*

TABLE 2.3

Correspondence between Exchange Rate and Reserve Movements

Percent of Quarterly Periods in which Exchange Rates (units foreign exchange per unit domestic currency) and Reserves Moved in the Same Direction: Third Quarter 1973 through Third Quarter 1978

Country	Exchange Rates		
	Dollar Rate (%)	SDR Rate %	MERM Rate %
Japan	76	76	76
Canada	76	71	76
United Kingdom	71	76	67
Italy	57	62	33
France	81	76	62
Germany	71	76	67

Source: IMF, *International Financial Statistics*, various issues.

V. Exchange Rates and Inflation Rates

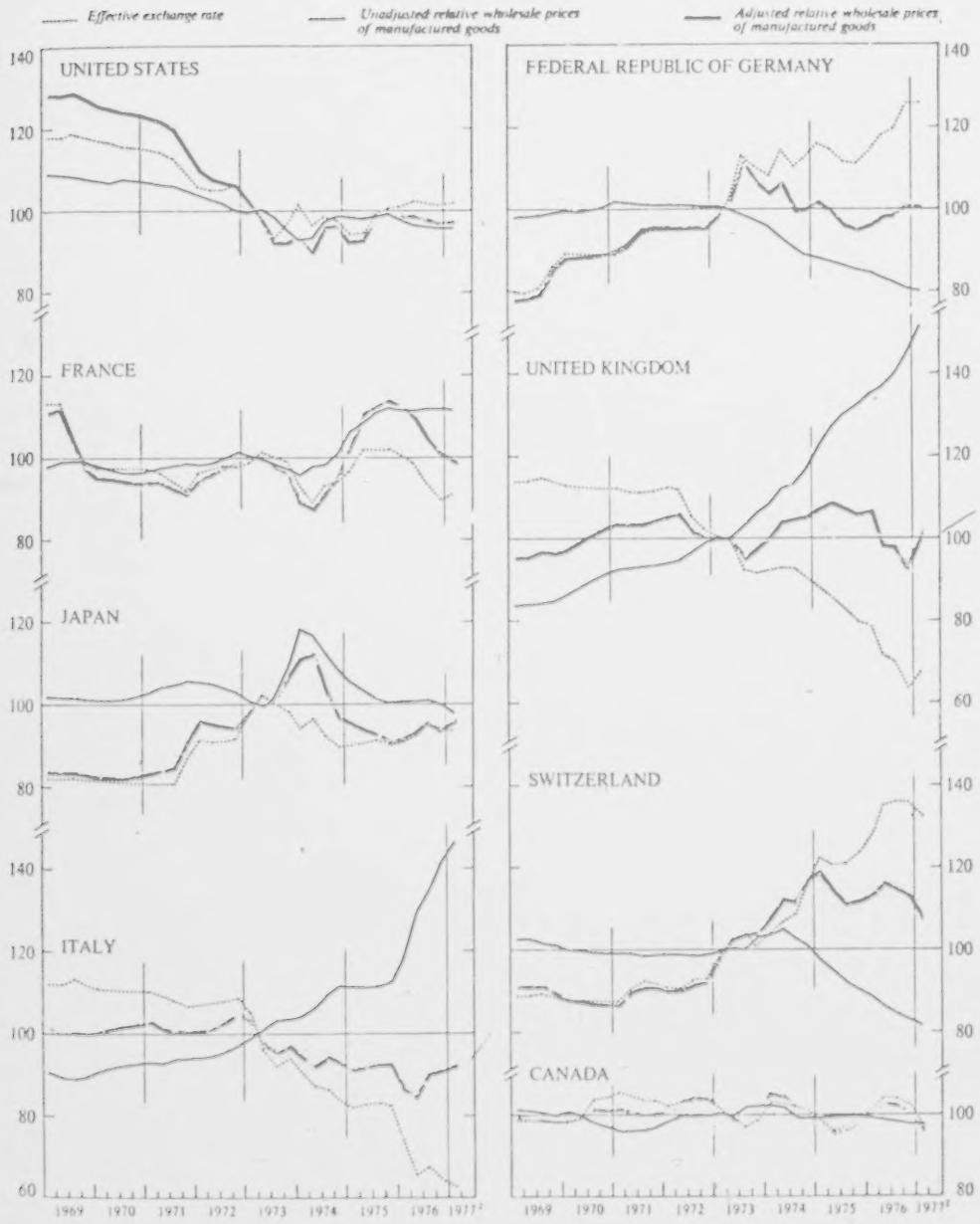
The relation between exchange rate changes and inflation rates is of interest for several reasons. Most importantly, if low inflation countries have appreciating currencies and high inflation countries have depreciating currencies, their international competitive position tends to be stabilized and the need to resort to trade measures is reduced. A strong negative correlation between a high rate of inflation and the value of a country's currency is evidence that the exchange rate mechanism is acting to adjust a potential balance of payments disequilibrium by restoring a more competitive international structure of prices. If, however, a currency is being extensively managed, or trade controls are suppressing a disequilibrium, or private speculative capital flows are destabilizing, then the correlation between inflation rates and the exchange value of a currency will break down.

The purchasing power parity theorem illustrates the connection between inflation rates and exchange rates [Officer, 1976; Brillenbourg, 1977]. In the strict version of this theory differential inflation rates among countries are exactly offset by associated exchange rate changes, so that the competitive position of countries remain unchanged and the "purchasing power" of one currency maintains parity with that of other currencies. Among the many reasons why these results may not be observed in practice, the theory does not consider the role of capital flows in determining exchange rates. Also, structural changes in economic conditions such as depletion of non-renewable resources are not ac-

CHART 8

Effective Rates and Relative Prices, 1969-76

(Quarterly indices, first half 1973=100)[1]



[1] These indices, including those used in the calculation of the effective exchange rates, are based on data for the 14 industrial countries.

[2] First quarter partially estimated by the Fund staff.

counted for. Because capital flows in and out of the U.S. are large, and because of a structural shift in trade toward imported oil, we would not expect the theorem to be strictly applicable for the U.S.

The International Monetary Fund in its 1977 *Annual Report* has analyzed the relation between exchange rates and price movements in eight industrial countries, and we have reproduced their summary charts.[6] The period covered is 1969–1976 including both the end of the adjustable peg system (1969–1972) and the floating period (1973–1976). The dotted line represents a trade weighted exchange rate, the narrow solid line represents the wholesale prices of a country relative to foreign wholesale prices, and the bold solid line represents relative wholesale prices adjusted for changes in the exchange rate. If the purchasing power parity theory works well, we would expect that prices and exchange rates would move in opposite direction, and that the exchange rate adjusted price index (the bold line) would fall between the two and be relatively stable.

In the pre 1973 period the theory appears to be relevant only for Italy and the U.K., both of whom displayed increasing relative prices and declining currency values. The U.S. showed declines in both its relative prices and the value of the dollar, both of which contributed to a major improvement in its international competitive position. This period includes of course the temporary float from August to December 1971, and the Smithsonian realignment which led to a devaluation of the dollar. Also, in this period, both Germany and Switzerland exhibited relative price stability and increases in their currency values, and therefore declines in their international competitive position. The currency appreciations can be attributed to speculative capital inflows during this time.

Since the first quarter of 1973 the negative correlation between exchange rates and prices appears quite strong for two appreciating countries, Germany and Switzerland, and for two depreciating countries, Italy and the United Kingdom. The relation is less evident for the U.S. and this may reflect the importance of capital flows in our balance of payments. The Japanese improved their competitive position from mid 1973 to the first quarter of 1977. Throughout the period, Canada showed the greatest stability in relative prices, currency value, and relative prices adjusted for currency changes (the drop in the Canadian dollar did not start until mid 1976). The IMF notes, "As a consequence of these off-setting price and exchange rate developments, the pattern of competitiveness among most of the major industrial countries is now very similar to what it was in early 1973." We conclude that there does appear to be a negative correlation between exchange rates and price during this period

[6] The difficulty of using relative wholesale prices as a measure of divergent inflation trends is that international trade tends to stabilize wholesale prices to some extent. However, the IMF reports that using unit labor costs does not give significantly different results.

of floating, but it was by no means perfect. In any event a longer run correlation between prices and exchange rates as displayed in the charts should not be confused with short run correspondence. On the contrary, short-term fluctuations in exchange rates have led to sharp short-term changes in adjusted relative prices for many countries.

Table 2.4 tends to confirm the conclusion that exchange rate movements tend to offset differences in inflation, thus moderating changes in competitive position. Column 1 shows the change in relative price for each of the countries, column 2 shows change in effective exchange rate, and column 3 shows change in relative prices adjusted for exchange rate changes. In all cases except Norway, inflating countries had depreciating currencies and stable price countries had appreciating currencies. There was, however, substantial overshooting of the exchange rate, especially in Canada, Japan, Sweden, the U.K., and the U.S. When the current account balance is introduced (column 4), much of the overshooting can be explained. For example, the "excessive" depreciations of the Canadian and U.S. dollars help correct substantial current account deficits, while "excessive" appreciations for Germany and Japan help correct their surpluses. Thus the direction of exchange rate changes appears to be stabilizing, although trade responses can be quite delayed.

VI. Stability

The stability of exchange rates in a floating system has been a central issue in analysis of alternative exchange rate regimes. Since the unhappy experiences of the 1930s, proponents of fixed exchange rates have argued that in a floating system either speculative capital flows would be inadequate to smooth exchange rates or else that capital flows would be actively destabilizing. It was claimed that excessive fluctuations in exchange rates would create inefficiencies in international trade by sending distorted price signals to exporters and importers, would increase uncertainty and the cost of foreign trade and hence reduce the volume of trade below what it would otherwise have been, and also perhaps would contribute to inflationary pressures. While Friedman challenged these assertions and offered powerful arguments for flexible rates as early as 1950, the academic debate has continued. The present float remains inconclusive. Proponents of stable par value rates point to large bilateral swings, especially between the dollar and the German mark, and the general weakness of the dollar since 1977. Advocates of floating emphasize the unusual turbulence that has characterized the international economy throughout the 1970s.[7]

[7] Kindleberger and McKinnon offer two negative assessments of the current float, including excessive instability in exchange rates. Kindleberger argues that private capital flows have been actively destabilizing, while McKinnon concludes that there has been an insufficient supply of private capital for stabilizing

Before looking at the evidence concerning fluctuations, it is useful to note several features of the system as it has operated since 1973. Some of the movement in exchange rates that took place immediately subsequent to the general float in March 1973 was simply to correct a previous disequilibrium rate structure. Just as the interlude between August 1971 and the Smithsonian Agreement in December of that year was a corrective period for the previous disequilibrium, so too the period immediately following the March 1973 float should be associated with the strains of the pegged system, and not the new floating system.

Also, the benchmark against which present volatility in exchange rates should be judged is not perfectly fixed rates, for these did not exist in the pre 1973 period. Nor is a comparison of variability in the pre and post 1973 periods satisfactory. The underlying conditions in the two periods have changed quite sharply, and to the extent that exchange rate movements are *determined* by changes in the underlying economic and financial conditions of the world economy, an increase in exchange rate variability may simply reflect greater turbulence in the latter period.

There is considerable evidence of greater volatility of the fundamental determinants of exchange rates — inflation, industrial production, interest sensitive capital flows etc. — in recent years. Pigott, Sweeney and Willett (1976) confirm this by examining the variability of six economic variables such as prices, money supply, industrial production during different time periods. They found "In most cases variability was higher, in some cases considerably higher during the current period of generalized floating than during the decade preceeding the collapse of the Bretton Woods system" (p. 32). These findings are consistent with casual observation of the 1970s, which have been marked by oil deficits, inflation, and recession of a size unprecedented in the post war period.

Perhaps more important than year to year changes in basic economic magnitudes, is the evidence that the *dispersion* among countries with regard to fundamental exchange rate determinants has increased in recent years. To take but one example, the *differences* in inflation rates among countries have been considerably larger in the post 1973 period than in the earlier period. Table 2.5 demonstrates this. We have calculated a measure of dispersion in inflation rates among several industrial countries, the standard deviation. The calculations were done for three price indices, the GNP Deflator, the Wholesale Price Index, and the Consumer Price Index.

The table shows that the average annual standard deviation of the inflation rates in the seven countries around the mean inflation rate was 1.39 in the years 1961–1972 (GNP deflator). During the floating period of 1974–1977 the average annual standard deviation of the infla-

speculation. [Kindleberger, 1976; McKinnon, 1976]. Artus, in examining the German experience with floating between March 1973 and July 1975 finds evidence of destabilizing speculation. [Artus, 1976].

tion rates around the mean inflation rate jumped sharply to 5.09. This demonstrates that in addition to having higher inflation rates in the latter period, the differences among the countries were also much larger. The other two measures of inflation, the CPI and the WPI, also show sharply increased standard deviations in the latter period, confirming the conclusion that differences in inflation rates among countries have increased. It is the differences in inflation rates and not their absolute levels that are related to exchange rate changes.

These results are consistent with more extensive studies done elsewhere (Tiegen, 1975; Pigott et. al., 1976; IMF, 1978). For example, Tiegen found that the standard deviation of 10 industrial countries around the average CPI index was 0.9% in the 1945–65 and 1965–71 periods, but rose to 1.1 in the 1971–1973 period, and that the corresponding statistics for the GNP deflator were 0.9%, 0.6% and 1.3% for the three periods. Using quarterly data for eight industrial countries and 6 variables including prices, interest rates and money supplies, Pigott *et. al.* found that the average dispersion was almost uniformly greater in the 1973–1975 period than in any of the earlier periods. For example, the mean dispersion for the WPI was 2.68 in the latest period, while it was 0.64 during the decade 1960–1970. Finally, the IMF has calculated the average mean inflation rate (CPI) to be 4.2% for 1960–1973 and 11.8% for 1974–1977, with the average dispersion rising from 1.5 in the earlier period to 5.0 in the latter period.

To summarize, there is evidence of both greater instability in underlying economic magnitudes and greater dispersion among countries in recent years. It is therefore not surprising that exchange rates themselves have shown considerable movement. We cannot demonstrate, nor do we believe, that all exchange rate movement has been caused by these factors (or implicitly that there has been no destabilizing speculation). However it would be incorrect to attribute an inherent instability to the floating system, when the true cause for exchange rate fluctuations in recent years is unsettled economic conditions.

It is also important to realize that exchange rate movements that reflect real changes in underlying conditions, and especially differential inflation rates, will produce allocatively efficient price signals. As compared to a pegged exchange rate system, the nature of uncertainty faced by firms engaged in international trade will be different in a floating system, but it need not be greater, and may indeed be less. For a firm engaged in international trade, future foreign prices relative to domestic prices are uncertain in both regimes, but to the extent that exchange rate movements offset differential inflation rates (full purchasing power parity) there will be greater price stability (or less price uncertainty) in the floating than the fixed regime. For example, if costs and prices in the U.S. rise by 10% relative to trade partner costs and prices, exporting

firms face an unanticipated 10% disadvantage if exchange rates remain fixed, but are restored to their original competitive position if the currency depreciates by 10% in a floating system. The extent to which this conclusion holds depends of course on whether an individual firm's costs and trade pattern are representative, and the degree to which relative inflation rates among countries are correlated with exchange rate movements.

TABLE 2.4

Exchange Rates, Relative Price, Current Account Balances
Second Quarter 1976 — Second Quarter 1978

	Change in the Unadjusted Relative Wholesale Price of Manufactures	Change in the Effective Exchange Rate	Change in the Adjusted Relative Wholesale Price of Manufactures	Current Account (goods, services transfers) billions SDR's
Austria	–3.7	9.6	5.5	−2.6
Belgium	−10.4	7.4	–3.8	−0.3
Canada	2.3	−16.1	−12.1	−3.4
Denmark	0.6	−1.9	−1.3	−1.4
France	2.4	–9.7	–7.5	−2.8
Germany	–9.1	14.0	3.6	+3.2
Italy	20.9	−12.7	5.5	+1.9
Japan	−10.6	27.7	14.2	+9.3
Netherlands	–2.5	8.2	5.5	+0.2
Norway	–3.0	–7.4	−10.2	−4.2
Sweden	3.4	−13.7	−10.8	−2.9
Switzerland	−11.5	14.3	1.2	+3.2
United Kingdom	21.4	–8.6	11.0	+0.5
United States	0.8	–8.9	–8.2	−13.0

Sources: International Monetary Fund, *Annual Report* 1978; IMF *Balance of Payment Yearbook*, 1978

TABLE 2.5
Trends in the
Dispersion of Inflation Rates
Among Seven Industrial Countries[a]

Period	Average Annual Standard Deviation[b]		
	GNP Deflator	Wholesale Price Index	Consumer Price Index
1961–1972	1.39	1.73	1.47
1974–1977	5.09[c]	7.52	4.40

Data Sources: *Economic Report of the President, 1977*,
IMF, *International Financial Statistics*, various issues

a. United States, United Kingdom, Japan, Italy, Canada, France, Germany.
b. The standard deviation of inflation rates around the mean inflation rate for the seven countries was calculated for each year, and the average S.D. for the two periods, 1961-1972 and 1974-1977, was then calculated. One expects the standard deviation to increase as inflation rates trend upward.
c. 1974–1976.

The correct measure of exchange rate stability depends upon the questions posed. If the analysis concentrates on changes in the overall competitive position of a country, an aggregate trade weighted index is more appropriate than selected bilateral rates. In general we expect that aggregate trade weighted indices will show the greatest stability, as bilateral rates moving in opposite directions will tend to offset each other. The evidence seems to confirm this.

In Table 2.6 we have measured the coefficient of variation (standard deviation divided by the mean) for six bilateral dollar exchange rates, and for seven trade weighted exchange rates (MERM) based on quarterly data. All exchange rates have been corrected for trend over the period to measure fluctuations rather than trend. To accomplish this, a time trend was fitted to each exchange rate and the residuals were then analyzed. The calculations were done for the full period of floating (1973:03 — 1978:03) and for two subperiods (1973:03 — 1976:04; 1977:01 — 1978:03) to see if the latest period of dollar weakness has had an impact on measured instability.

For the full period the trade weighted average exchange rate (MERM) shows greater stability than do the bilateral dollar rates for all countries except the yen (about equal) and the Canadian dollar. This pattern also holds for the two subperiods. Also, the coefficient of variation for the MERM rate for the dollar (3.76) is substantially more stable than the bilateral dollar exchange rates, confirming that our trade

weighted exchange rate has been more stable than our bilateral rates (Canada excepted). Finally, the full period coefficients for the MERM rates show that the U.S. has enjoyed greater stability than the other major currencies (except Germany).

In comparing the two subperiods we note that the MERM coefficient increased for the U.S. in the latter period (4.73 vs. 3.06) indicating greater instability, and that during the latter period the U.S. MERM rate shows greater instability than four other currencies (French franc, German mark, lira, Canadian dollar).

Another question of interest is whether bilateral rates for the dollar have been more or less stable in the floating period than in the previous period of discrete changes in currency pegs. Unfortunately we cannot provide a conclusive answer, for the traditional measures of variability, the standard deviation and the coefficient of variation, cannot be used to give meaningful comparisons between a period of discrete changes and a period of floating. We agree, however, with the conclusions of Hirsch and Higham (1974) regarding fluctuations in the period April 1973 — January 1974 "No clear cut reference point exists for judging the extent of these comparisons. But there seems no basis by which they can be deemed small or even moderate." 1977 and 1978 have also been characterized by large movements in the bilateral exchange rates for the dollar, and this is relevant for U.S. commercial policy.

VII. Price Responsiveness of U.S. Trade

The impact of exchange rate changes on the level of exports and imports, *other things equal*, depends on the price responsiveness of international trade. The notion that exchange rate changes do not have predominant influence on U.S. exports and imports because of the importance of non-price factors has become increasingly popular outside of the economics profession. In part, this notion has been supported by the observation in the recent past of persistent and even widening trade deficits in countries whose currencies have depreciated (the U.S. and U.K.) while surpluses remain in countries whose currencies have appreciated in value (W. Germany and Japan). Of course, without taking explict account of other factors, in particular domestic price level movements and cyclical factors, this alleged evidence of the unimportance of exchange rates may be more apparent than real. Nevertheless, there is evidence that non-price considerations may be an important element in U.S. international trade.

The importance of agriculture in U.S. exports (approximately 20 percent of total) blunts the effectiveness of exchange rate changes in adjusting the U.S. merchandise trade account. The supply of agricultural goods, as well as their demand in world markets, tend to be

relatively unresponsive to price changes. In addition, the Common Agricultural policy of the EEC, through the use of variable levies works to neutralize whatever advantage U.S. agricultural exports gain from dollar depreciation.

The importance of U.S. trade with Canada has also been cited as evidence of the unimportance of price competition; Fox and Katz (1978) note that a part of this trade is between U.S. corporate parents and their Canadian subsidiaries. Intra-company international trade is unquestionably becoming an important phenomenon with the rise of the multinational corporation. The implications of this trend have yet to be systematically studied, but it seems reasonable to assume that prices (and exchange rates) are less important in determining the volume of such trade than is normally the case.

A related point has recently been made by Under Secretary of Treasury, Anthony Solomon (1978), who suggests that "We may not . . . be getting energetic competition in foreign markets because many of our firms have subsidiaries abroad with which they are not prepared to compete for markets." He goes on to state: "There may even be a tacit geographic division of markets among related firms which greatly slows the response to relative price changes and to new market opportunities." (p.6)

Marketing strategy is another aspect of the multinational corporation that tends to weaken price competition in world markets. According to Fox and Katz (1978), "modern international commerce is characterized by marketing strategies and pricing policies which are focused on market penetration or market-share objectives. These strategies often assign an incidental or passive role to exchange rate fluctuations." (p.7) This is tantamount to saying that modern corporations are not necessarily profit maximizers in the short run and in some segments of their markets. To the extent that it is true, the conclusion that price is not of central importance is logically correct.

Finally, it must be recognized that a growing proportion of U.S. trade is with state-controlled enterprises. The new found wealth of OPEC countries and the increasing role of government around the world has increased governmental participation in international trade. The behavior of government in international trade is another subject that has yet to receive the attention it deserves, but again it is reasonable to assume that governments probably assign less importance to purely economic considerations including price competition than do international traders in the private sector.

There are, therefore, good reasons for believing that non-price considerations are important in particular areas of trade, and perhaps increasingly so. Unfortunately it is impossible to measure their importance. It is possible, however, to measure empirically the price

responsiveness (elasticity) of trade, while at the same time holding other quantitative determinants (e.g., income) of exports and imports constant. Numerous studies have been undertaken to estimate price elasticities in international trade. Moreover, the ability of empirical models to explain changes in exports and imports by changes in price and income variables sheds some light, albeit indirectly, on the importance of non-price considerations, which are inevitably excluded in such analysis.

Table 2.7 presents estimates of the price elasticity of U.S. demand for imported goods. A coefficient greater (less) than unity implies that the quantity of imports demanded responds more (less) than proportionately to a given change in price. For example, Magee's (1970) estimate for total import demand of -1.35 implies that when the relative price of imports increases by 10 percent, the quantity demanded falls by 13.5 percent. There is considerable disparity in the estimates because they employ different data and cover different spans of time. But the results do reveal systematically that manufactured imports are responsive to price (and hence *real* exchange rate) changes. Changes in *nominal* exchange rates that are subsequently offset by price inflation cannot, of course, be expected to adjust the balance of trade. In the primary sectors, the price elasticity of demand is lower, and import demand is no doubt determined to a greater extent by non-price factors.

Table 2.8 presents estimates of the price elasticity of demand for U.S. exports. Unfortunately estimates as disaggregated as those for import demand are unavailable. For total U.S. exports, however, the price elasticity of demand appears to approach -2.0, implying that a 10 percent reduction in U.S. export prices (or *real* devaluation of the U.S. dollar) will induce a 20 percent increase in demand for U.S. exports, other things equal. It is likely that estimates for agricultural exports would yield lower price elasticities and for manufactured exports possibly higher. One study that did undertake disaggregated estimates obtained results that support this hypothesis (Magee, 1970).

The price elasticities present in tables 2.7 and 2.8 should not be interpreted as measures of instantaneous demand adjustment to changing prices and exchange rates. Several of the studies reported in the tables found a considerable lag in demand adjustment to changing market conditions. Lawrence (1978) found an average lag in demand for U.S. exports and U.S. demand for imports of about eighteen months. Goldstein and Khan (1978), on the other hand, report a lag of six months in U.S. export demand to changing prices. The deteriorating trade position of the United States in 1977 and the first-half of 1978 is no doubt in part a delayed response to the appreciation of the dollar in 1975 and 1976.

The elasticity estimates reported in tables 2.6 and 2.7 represent the most reliable empirical work available on the issue of price sensitivity of U.S. exports and imports. They attempt to measure the

impact of price, holding other quantitative determinants constant. They do not, however, take explicit account of non-price considerations, the presence of which could bias estimates away from their true value. However, without knowledge of how price and non-price factors are correlated, it is impossible to judge in which direction the estimates might be biased. Since the models from which these estimates are obtained tend to explain most (on average 90 percent or better) of the variation in the level of exports and imports over time, it can be inferred that price and income are the principal determinants of aggregate trade performance, and that as a consequence exchange rates have a significant bearing on U.S. international competitiveness.

Table 2.6

Quarterly Variation in Exchange Rates, 1973–1978
Coefficient of Variation Corrected for Trend*

	1973 (3rd Quarter)–1978 (3rd Quarter)	1973 (3rd Quarter)–1976 (4th Quarter)	1977 (1st Quarter)–1978 (3rd Quarter)
Bilateral Exchange Rates			
$/UK pound	7.51	7.24	7.77
$/French franc	5.62	6.04	4.67
$/Deutsch mark	5.28	5.32	4.47
$/Italian lira	6.24	6.59	5.66
$/Canadian dollar	3.11	3.23	2.27
$/Japanese yen	8.29	6.99	9.94
MERM Rates			
U.S. $	3.76	3.07	4.73
UK pound	4.92	4.60	5.53
France franc	4.31	4.90	1.52
Germany DM	3.19	3.60	1.53
Italy lira	3.99	3.95	3.94
Canada $	4.20	4.00	3.83
Japanese yen	8.99	7.99	9.41

Source: IMF, *International Financial Statistics*

* low coefficients indicate greater stability of the currency.

Table 2.7
Estimates of the Price Elasticity of U.S. Demand for Imports

STUDY AND PERIOD OF ESTIMATION[1]	CRUDE MATERIALS	CRUDE FOODSTUFF	MFGRD FOOD	Semi-MFGRS	Finished MFGRS	Total IMPORTS
1. Ball and Marway (1962) (quarterly, 1948–58)	–0.26	–0.34	–1.87	–1.38	–3.50	
2. Rhomberg and Boissonneauet (1965) (quarterly 1948–61)	–0.21	–1.10	–2.30	–.73	–0.48	
3. Kreinen (1967) (annual 1954–64)		–0.40	–1.67	–0.61	–5.03	
4. Houthakker and Magee (1969) quarterly, 1947–66)						
a. Short run		–0.09	–0.51	–0.18	–0.45	–0.20
b. Long run		–0.21	–1.40	–1.83	–4.05	–0.38
5. Magee (1970)		–0.40	–1.14	–0.78	–5.02	–1.35
6. Wilson and Takacs (1977) (quarterly, 1957–71)						
a. Long run						–4.78
7. Lawrence (1978) (semi-annual 1962:1–1977:1)			–1.52			

[1] This is an updated version of Table 2 in Magee [1975, p. 182].

TABLE 2.8
Estimate of the Price Elasticity of Demand for U.S. Exports

Study (coverage)	Elasticity Estimate
1. Houthakker and Magee (1969) (annual 1951–66: total exports)	–1.51
2. Hickman and Lau (1973) (annual 1961–69: total exports)	–1.38
3. Wilson and Takacs (1977) (quarterly: 1957–71: total exports)	–3.31
4. Goldstein and Khan (1978) (quarterly 1955–1970: total exports)	–2.32
5. Lawrence (1978) (semi-annual: mfgrd exports)	–1.85

VIII. Conclusions

What conclusions can be drawn from our experience with managed floating exchange rates? The oil price increase, the turbulent economic conditions in recent years, and the recent weakness of the dollar tend to obscure the view, but some features remain apparent. First, managed floating has not eliminated balance of payments concerns. Although the major industrial countries have abandoned fixed exchange rates, and the degree of flexibility has increased, the automatic balance of payments adjustment envisioned by proponents of floating exchange rates has not occurred.

Part of the reason has been the structural imbalance created by OPEC surpluses. Part of the reason is continued management or intervention by central banks to delay or frustrate exchange rate changes. A stronger role for IMF surveillance is needed. The U.S. failure to restrain oil imports has also played a role in frustrating global balance of payments adjustment.

Second, there is support for the proposition that in the longer term exchange rate changes do offset differences among countries in inflation rates and thus *contribute* to balance of payments adjustment. The process is obstructed in the short run by excessive intervention and

probably by some destabilizing capital flows. Also, sustained capital flows can break the link between inflation and exchange rate movement. Because the process of adjustment is often delayed or incomplete, countries continue to be legitimately concerned about their trade balances. In this connection, the delayed response of trade to price changes, the cyclical imbalance between the U.S. and the other OECD countries, and the apparent inability of the U.S. to establish a timely and convincing inflation policy, led to a sharp decline in the dollar in 1978, and at least a temporary retreat from our commitment to floating.

Third, there has been considerable instability of the dollar *vis-a-vis* other currencies athough the average of the dollar has been more stable than other currencies, and other countries had to deal with greater instability in their currencies. We believe that much of the instability reflects the turbulent economic conditions, and that for the most part the change in the dollar's value should be welcomed as evidence of the adjustment mechanism. Still, the swings in the dollar against other currencies have been pronounced, and must be considered when evaluating the effectiveness of commercial policy tools.

Finally, available evidence suggests that changes in relative prices, including those arising from exchange rate changes, continue to be important longer run determinants of the U.S. trade balance.

III. Commercial Policy In a Managed Floating Exchange Rate System: A Theoretical Overview

I. Introduction

Analysis of the international monetary system in the previous chapter revealed that a good deal more flexibility for adjustment to imbalances in international trade and payments exists today than existed under the Bretton Woods arrangements. Nevertheless, the current system falls far short of anything like a "pure" floating exchange rate system, since governments continue to intervene in foreign exchange markets, albeit on a more *ad hoc* basis. Moreover, the adjustment process in response to exchange rate changes in the recent past has been seen to operate less perfectly than textbook theory suggests to be the case, particularly in the short-run. Therefore, in assessing the implications of recent changes in international monetary relations for commercial policy we must be careful to keep both of these qualifications clearly in mind. We are also reminded that both the international monetary system and commercial policy have been directly affected by other developments in international economic relations, in particular by the two that are singled out in this study — the increasing role of government in economic affairs, and the oil price increase.

The present chapter provides an analysis of the relationship between commercial policy and exchange rate adjustment in a floating rate system, taking necessary "real world" qualifications into account. As such, this chapter provides a basis for examining current U.S. policy in the following chapter.

II. Fundamental Relationships Between Exchange Rate Adjustment and Trade Policy Measures

The contending forces of supply and demand operate perhaps nowhere more efficiently than in the market for foreign exchange. The principal determinants of supply and demand in the market for foreign exchange are (on the supply side) a country's ability to export goods and services and attract foreign capital, and (on the demand side) the propensity to import foreign goods and services and invest abroad. Governments are also important participants in the market, particularly under a fixed rate system which dictates their commitment to intervene against market forces to maintain agreed upon parities. Even under a

floating rate system, however, governments can be active in exchange markets as they attempt to smooth out short-run fluctuation and adjust reserve positions to desired levels. For purposes of analysis, we will initially assume that a floating exchange rate is determined by private market forces, subsequently relaxing this assumption to determine how *ad hoc* management of exchange rates, as observed in practice, affect commercial policy.

Estimated elasticities of demand for U.S. exports and imports show that changes in exchange rates have an important effect (beyond the short run) on quantity of foreign exchange supplied (by exporting) and demanded (for importing). International capital flows are also influenced by the exchange rate, albeit in a less predictable way. Short term capital flows are generally thought to be determined primarily by international interest rate differentials, and exchange rate expectations.

Long term capital movements are determined primarily by long-run profit expectations, although the maintenance of an overvalued currency may provide a powerful inducement to invest abroad, as has been alleged to have been the case in the United States in the late 1960's and early 1970's. For purposes of analysis we begin by assuming that international capital movements are independent of exchange rate and current account transactions, then relax the assumption to observe how speculative capital flows might affect our conclusions.

That a relationship exists between the exchange rate adjustment and commerical policy is obvious from the fact that both alter the relative price of foreign and domestic goods. A tax on imports and a subsidy to exports make foreign goods more expensive in domestic markets and domestic goods less expensive in foreign markets in the same way that an exchange rate devaluation does. A uniform tax on imports and subsidy to exports has in fact been suggested from time to time as a substitute for an exchange rate devaluation.[1]

There are, however, several major differences between the impact of exchange rate adjustment and that of trade policy. The most important is that whereas the impact of exchange rate adjustment is always general and non-discriminatory, that of trade policy, in practice at least, never is. In fact commercial policy measures are often (in the U.S. most often) designed explicitly to create differential incentives among industries so as to direct the allocation of resources or distribution of income among domestic sectors. Only if commercial policy measures were motivated by aggregate economic concerns, such as to stimulate *aggregate* employment or correct the *overall* balance of payments, would

[1] Lord Keynes (1931, p. 199) was one of the first to make this suggestion, his concern being "to avoid the injury to the national credit and to our receipts from foreign loans fixed in terms of sterling which would ensue on devaluation."

they be designed to be general and non-discriminatory. And, even when trade measures are so designed, it is unlikely that their implementation in the real world would have that effect. For example, the 10 percent surcharge on U.S. imports imposed in 1971 resulted in, as a consequence of administrative limitations, a weighted average rate of only 4.8 percent, with a heavier burden on semi-manufactured goods than on crude materials and foodstuffs (Takacs, 1974, p. 18). Thus, we must conclude together with Professor Haberler (1967, p. 23) that "to think of currency depreciation as the equivalent of a uniform tax on imports plus subsidy on exports is a very useful analytical device for the purpose of elucidating certain relationships; but it is a dangerous policy recommendation."

The relationship between exchange rate adjustment and commercial policy is further complicated by the fact that whereas exchange rate adjustment works through the price mechanism, trade measures frequently by-pass it. Tariffs, export subsidies and other *financial* incentives affect economic decisions indirectly through their impact on prices, as does a change in the exchange rate. Import quotas and other quantitative trade barriers, on the other hand, circumvent the price mechanism and exert instead a direct influence on economic decision-making. One would expect, therefore, that the implications of a floating rate system would be quite different depending on whether trade measures are financial or quantitative.

Clearly a relationship exists between exchange rate adjustment and trade policy, but the terms of the relationship are presumably different among different types of trade measures. A useful taxonomy is one that distinguishes general, across-the-board measures from industry-specific measures, and distinguishes financial (or price) measures from quantitative measures.

III. General Trade Measures

Under the Bretton Woods system many countries resorted to general trade measures, such as non-discriminatory export subsidies and uniform import taxes, as an imperfect substitute for exchange rate adjustment. During the period 1970–74, for example, at least 24 countries, including the United States, imposed general import surcharges in attempts to correct balance-of-payments difficulties [Bergsten, 1977, p. 2]. In theory, when exchange rates are inflexible such measures can provide short-term relief for payments problems, although in practice they may only exacerbate the situation by telegraphing to speculators that a fundamental adjustment is inevitable.

In a world of floating exchange rates trade measures have a doubtful role to play in correcting a balance-of-payments problem. In the first place, it is not at all clear what constitutes a balance-of-payments

problem when exchange rates float. When exchange rates are fixed one can reasonably say that a country has a balance-of-payments "deficit" if official reserves are drawn down to compensate for deficit balances in the current account and/or capital account. In a system of floating exchange rates, however, government has no formal commitment to intervene in exchange markets, thereby building up or drawing down reserves. When exchange rates float freely, which means that governments do not buy or sell reserve assets with the aim to maintaining an exchange rate, the balance of private sector payments is by definition always in balance. Surpluses and deficits can only occur within the individual accounts of the balance-of-payments, the surpluses being the counterpart of the deficits. Thus, in 1978, the United States recorded a net deficit in the current account, but a corresponding and almost equivalent surplus in the capital accounts (including increased liabilities to foreign official monetary authorities). (See Table 3.1) This situation might be considered to be a problem only if one believes that it is in the national interest to finance "current" purchases from the rest of the world by "current" sales of goods services, and not through borrowing from the rest of the world.

Sidestepping the question of just what national interest those who take this position have in mind, we might ask what can be done to remedy the situation. An answer has recently been advanced by Assistant Secretary of Commerce Frank Weil: "We must export more than in the past to pay for those (growing) imports. To do so, we as a nation must become more competitive in all aspects of international trade."[1]

In the short-run at least, becoming more competitive in international trade often means subsidies to exports and taxes on imports, although Secretary Weil seems to have had the former in mind. But can a general export subsidy or import tax eliminate a trade deficit now that exchange rates are no longer fixed? If we could assume that governments do not intervene to prevent an exchange rate adjustment, and further that international capital flows and income payments are determined independently of the level of or anticipated changes in the exchange rate, then clearly the answer would be negative. Under these assumptions, any attempt to expand exports or reduce imports would inevitably induce the domestic currency to appreciate in value, thereby dissipating somewhat the incentive provided by the export subsidy or import tax. But, of course, these assumptions are not valid in the real world. Moreover, since there are lags in the adjustment of exports and imports to exchange rate changes, at least a temporary improvement in the trade balance might be obtained.

We first relax the assumption that governments remain aloof from the exchange market. Of course, when governments intervene

[1] The quote is from a Commerce Department news release of a speech Secretary Weil gave on June 21, 1977.

systematically to maintain fixed exchange rates, the mitigating effect of policy-induced appreciation cannot occur. When instead they intervene on an *ad hoc* basis, as they seem to be doing at the present time, the effectiveness of general trade measures for balance-of-payments becomes uncertain. In a ''managed'' floating exchange rate system the effectiveness of general trade measures depends very much on the degree of management — the more freely exchange rates float, the less effective general trade measures are likely to be, all other things equal. If, as suggested in the previous chapter, the trend is toward less intervention, then one would expect that both the need for such measures and their effectiveness will diminish over time.

In a floating exchange rate system, even a ''managed'' one, the critical factor determing the effectiveness of general trade measures for balance-of-payments purposes is the response in international capital markets. In a floating rate system the exchange rate adjusts to clear international capital markets as well as the markets for internationally traded goods and services. Thus, one can assess the impact of general trade measures designed to expand exports or reduce imports only if one can predict the response to such measures in international capital markets.

Presumably, this response will depend primarily on how the implementation of trade measures affect expectations about exchange rates. If speculators believe that the implementation of trade measures signals a long-awaited commitment to improve the country's competitiveness, the expectation might be that the country's currency will appreciate and remain strong. This will normally motivate a capital inflow. The inflow of capital will in turn exert additional pressure on the domestic currency to appreciate, and presumably at the cost of further deterioration of the competitiveness of export and import-competing industry. Thus, under these circumstances, general trade measures designed to influence the structure of the balance-of-payments would appear ineffective, and given such a response in international capital markets, possibly even counter-productive.

A different scenario is perhaps just as likely, however. Speculators with a strong sense of history may recall that past resort to restrictive trade measures for balance-of-payments purposes were seldom effective. Their conclusion might be, therefore, that any increase in exports or reduction in imports that such measures produce will be short-lived, and that eventually the domestic currency must depreciate in value. This expectation could give rise to a capital outflow, with downward pressure on the domestic currency. The response in international capital markets, by preventing appreciation or even causing the exchange rate to depreciate, could under these circumstances possibly support trade measures by improving a country's competitiveness. Of course, capital

flight and the resulting currency depreciation are mixed blessings. Capital outflows may exert unwanted demand on official reserves, and currency depreciation may add enough inflationary pressure in the economy to offset any competitive gain the trade sector may have realized from the trade measures.

What this discussion suggests is that, under a system of floating exchange rates, the effectiveness of general trade measures to influence the structure of a country's balance-of-payments is uncertain at best. Even under the Bretton Woods system these measures were decidedly inferior to alternative options available to deficit countries. In any system these measures tend to add to the inflationary pressures that are usually at the root of the problem. Under floating exchange rates, trade measures have the additional disadvantage of potentially causing exchange rate adjustments that are inimical to the attainment of their objective.

IV. Industry-Specific Trade Measures

The ineffectiveness of general trade measures under floating exchange rates is rather well recognized. The question of the effectiveness and efficiency of industry-specific measures under floating exchange rates has received less attention. There are two separate facets to the question. One concerns the impact of introducing an industry-specific trade measure on the exchange rate, and the feedback effect of induced exchange rate changes on the effectiveness and efficiency of the measure. The other concerns the effect of independent (or exogenous) fluctuations in exchange rates on the effectiveness of industry-specific trade measures that are already in place. We will take up each aspect in turn.

The problem of the feedback effect of induced exchange rate adjustment on the effectiveness of trade measures is far less important when such measures are applied selectively to specific industries than when applied across-the-board. This follows simply from the fact that imports or exports in specific industries generally constitute a relatively small share of the aggregate demand for or supply of foreign exchange. Relatively large policy-induced changes in the level of exports or imports of particular goods are likely to have a relatively small impact on the exchange rate. Therefore, other things equal, the use of tariffs or quotas as protective devices for specific industries would seem to be jeopardized very little, if at all, by recent international monetary reforms. Of course, simultaneously introducing a number of industry-specific trade measures, which together cover a significant share of exports or imports, could have a significant exchange rate effect.

Although the impact on the exchange rate of introducing a tariff or a quota is likely to be small, and as a consequence the feedback

TABLE 3.1

U.S. Balance of Payments ($ millions)

	1975	1976	1977	1978	
				QI	QII
Current Account Balance	18445	4339	–15292	–6382	–2656
Merchandise Trade Balance	9047	–9353	–31130	–11201	–7802
Exports	107088	114694	120576	30664	35067
Imports	98041	124047	151706	41865	42869
Services and Investment Income Balance	14013	18714	20545	5625	6017
Unilateral Transfers Balance	–4615	–5022	–4708	–1282	–1317
Capital Account Balance	–30195	–29181	–20673	–12946	–373
Change in U.S. Private Assets Abroad (increase,–)	35368	–43865	–30740	–14386	–5287
Change in U.S. Gov't Non-Reserve Assets Abroad (increase,–)	–3470	–4213	–3679	–896	–1176
Change in Foreign Private Assets in the U.S. (increase, +)	8643	18897	13746	2336	6090
Official Settlements Balance	6300	15543	36893	16006	–5356
Change in Foreign Official Assets in the U.S. (increase, +)	6907	18073	37124	15760	–5685
OPEC Official Assets in the U.S. (increase, +)	7092	9581	6733	1963	–2838
Change in U.S. Reserve Assets (increase, –)	–607	–2530	–231	246	329
Statistical Discrepancy	5449	9300	–927	3638	8830

Source: *Federal Reserve Bulletin*, January 1979, *Survey of Current Business*, December 1977

effect minor, it is possible nevertheless that even a small policy-induced exchange rate change could have a negative effect throughout all export and import-competing industries which when added up could match the gains derived from introducing the measure. Suppose, for example, that the United States, in an effort to maintain employment in several declining industries, imposed sizeable restrictions on imports; the resultant impact on the exchange rate might be quite small. Certainly it is unlikely to be significant enough to erode the competitive advantage gained in the protected industries by the restrictions. However, even a small change in the exchange rate could alter the *marginal* competitiveness of all other (non-protected) trade sectors, with the consequence that jobs gained (or not lost to import competition) in the protected industries could be matched by jobs lost (or not gained) in the more dynamic trade sectors. Whether such a trade-off will occur with the introduction of a given tariff or quota is an empirical issue. If it does occur, its desirability involves a welfare judgement; it may well be that the social gain from protecting one hundred jobs from import competition in a single community far outweighs the social loss of surrendering the same number jobs dispersed throughout the economy. Nevertheless, it is important in a floating exchange rate system that policy-makers be aware of the potential mitigating effect of induced exchange rate changes and take them into account in deciding whether to implement trade restrictions.

A perhaps more important question concerns how floating exchange rates affect tariffs and quotas that are already in place. Rational trade measures are designed to give domestic producers a calculated advantage against foreign competitors, presumably at a calculated cost to domestic consumers. When this competitive advantage is provided by tariffs or other financial incentives that work through the price mechanism, the exchange rate is the critical variable upon which calculation of the target level of protection is based. If, once a tariff is in place, the exchange rate changes, the actual level of protection granted to producers and the cost to consumers will diverge from that which was intended. This does not follow, of course, if exchange rate movements are the mirror reflection of average relative price movements between competing countries *and* the rate of change of prices in the protected industry corresponds exactly to that of general wholesale or consumer prices. Under these conditions tariffs are as effective under floating rates as they are under fixed. Although there is evidence (cited in the preceeding chapter) that the first condition may hold (in the medium/ long-run), there is no evidence to support the second; on the contrary, the rate of change of prices among industries exhibits considerable variability.[1]

The same shortcomings are not encountered with quotas or

[1] Although the effectiveness of a tariff may be reduced in a floating rate system, it will nevertheless alter relative product prices.

other quantitative restrictions. When imports are subject to quantitative restrictions policy-makers can rest assured that the desired level of protection will not be eroded by a fall in the price of foreign exchange. On the other hand, if the price of foreign exchange rises they need not be concerned that domestic producers will reap unwarranted advantage since the level of imports will remain at the quota level until the price of imports rises (as a consequence of depreciation) to a point at which it exceeds the supported domestic price, where the quota becomes redundant. In a floating rate system quotas gain a certain advantage from the fact that they circumvent the price mechanism and are, therefore, unaffected by exchange rate changes. This suggests that recent changes in the international monetary system may tend to diminish the importance of tariffs as a tool of commercial policy relative to quantitative restrictions (Nowzad, 1976, p. 922).

This conclusion raises an apparent dilemma — for if fluctuating rates diminish the effectiveness of tariffs as a tool of commercial policy, quotas and other quantitative restriction diminish the effectiveness of floating exchange rates as a mechanism of adjustment. Quotas, by circumventing the price mechanism, shift the burden of adjustment which exchange rate realignment is supposed to effect on to those sectors not subject to quantitative restrictions. The more industries that are subject to import quotas, the fewer industries that are free to adjust to exchange rate changes to bring overall payments into balance. The fewer industries that are free to adjust, the greater an exchange rate change must be in order to produce a given level of adjustment. And, further, the greater the change in exchange rates, the greater the burden on each export and import-competing industry undergoing adjustment. Therefore, increased reliance on quotas as a tool of commercial policy may mean greater amplitude in exchange rate fluctuations and greater adjustment burden on certain industries, both of which jeopardize the political as well as the economic attractiveness of a floating exchange rate system. It is for this reason that it has been argued that trade policy reform under the auspices of the GATT should be coordinated with world monetary reform, the responsibility for which largely rests with the IMF (Nowzad, 1976).

V. Summary and Conclusions

Exchange rate adjustment and trade policy measures both have the effect of changing the relative competitiveness of foreign goods in domestic markets and domestic goods in foreign markets. But, whereas exchange rate adjustment is always general and non-discriminatory in terms of its impact on the trade sector, trade measures are frequently designed specifically to provide differential incentives among export and import-competing industries so as to influence the

allocation of resources. Moreover, whereas exchange rate adjustment works exclusively through the price mechanism, trade measures often by-pass prices imposing instead a direct influence on economic decisions, as in the case of quotas. These distinctions provided a framework for the foregoing taxonomic analysis of the effectiveness and efficiency of different forms of trade measures under floating exchange rates. This analysis yields some tentative conclusions concerning the broader question raised in Chapter I: Does the recent emergence of floating exchange rates lessen the threat to economic liberalism in the world economy?

Despite the existence of generalized floating exchange rates, several major industrialized countries, in particular the United States, are currently experiencing large trade deficits financed in part by medium/short-term capital borrowing from OPEC. This situation has again given rise to demands for trade measures of a general, across-the-board nature to help restore the United States' traditional trade surplus. In this chapter we have argued that the effectiveness of general trade measures under the current international monetary system is uncertain at best. This argument, if accepted, implies that the emergence of floating exchange rates should mitigate the threats to free trade that have arisen from the past failure of the international adjustment mechanism and the current payments imbalances created by the oil crisis.

Another major threat to economic liberalism derives from the increasing role that governments are claiming in managing the economic affairs of their countries. In Chapter I it was argued that when market incentives fail to reflect social (as opposed to private) costs and benefits of consumption and production, government has an obligation to intervene. Trade policy tools are normally considered to be inferior if the objective of policy is to correct a divergence in domestic markets. Under a system of floating exchange rates, it is argued here, trade measures are even less efficient than when exchange rates are fixed. This argument if understood and appreciated by policy-makers, could help to prevent an increasing assault on free trade as countries continue, as they no doubt will, to manage their economies.

IV. A Review of United States Trade Policy Under Floating Exchange Rates

I. Introduction

Despite a strong commitment to a system of "free enterprises," government intervention in the United States economy is pervasive. In the area of international commerce, however, the United States is one of the world's staunchest proponents of free trade. Nevertheless, the country does implement policies that directly affect both the level and the structure of exports and imports. The purpose here is not to question the objectives which underlie these measures, but rather to reassess their effectiveness and efficiency under the new managed floating exchange rate system. Following the sequence in chapter III, we proceed by distinguishing general trade measures designed principally to influence aggregate levels of exports and imports from industry-specific trade measures used primarily to influence the allocation of resources.

II. General Trade Measures

Import Restrictions

Not since 1971 has the United States imposed a general tax on imports for the purpose of correcting the overall balance-of-payments. Even on that occasion, the import surcharge tax was in effect only four months, having been lifted at the conclusion of the Smithsonian Agreement in December, 1971 — a validation of the superior effectiveness and efficiency of exchange rate adjustment for dealing with problems of aggregate external imbalance.

The only restrictive import measure currently in force that has among its objectives the improvement of the trade balance is the "Buy American" policy in government purchasing. As a means of improving the balance on trade, the Buy American policy is questionable even in a system of fixed exchange rates. Unless excess capacity exists in import-competing industries favored by the policy, the impact of preferential government buying of domestic goods rather than lower priced import substitutes can be to increase further the wedge between domestic and foreign prices, making imports all the more attractive in the private sector. Thus, what is gained in terms of reduced imports in the public sector can be offset to some extent by increased imports in the private sector [Richardson, 1972].

In a system of floating exchange rates, the Buy American policy is presumably even less effective. If the policy leads to lower imports than would occur in its absence, then by the same token it contributes to a higher valuation of the dollar and possibly to the detriment of U.S. export and import-competing industries. Of course, given the small potential that the Buy American policy has for influencing the level of imports, any exchange rate effect it might have is likely to be inconsequential. Probably the most important implication of floating exchange rates, therefore, is to eliminate the balance-of-payments argument as an obstacle to arriving at a much needed international code on governmental procurement practices, such as is being attempted at the current Tokyo Round of negotiations in Geneva.

Export Subsidies

The United States government currently subsidizes exports in several ways: by tying foreign economic assistance to the purchase of U.S. goods; through the provision of preferential credit arrangements to importers and exporters of U.S. goods; and by granting favorable tax incentives to U.S. exporters.

Although it is recognized that aid-tying imposes a potential cost on recipient countries by limiting (if U.S. prices are higher than those in world markets) the amount of real resources that can be acquired from a given amount of financial assistance, the need to protect the country's balance-of-payments has usually been considered sufficient justification for tying non-military aid. (Tying military aid of course rests on the stronger, inviolable grounds of national security). It has always been hoped that the emergence of a more rational and efficient international adjustment mechanism, such as was promised by the adoption of floating exchange rates, would lessen the need for aid-tying [Little and Clifford, 1966]. Unfortunately, rising trade deficits have weakened any serious chance of relaxing the tying provision in U.S. aid. In any case, probably by now, having been a part of U.S. assistance for so long, aid-tying is an essential part of building a constituency in favor of foreign assistance. The politics of aid, therefore, no doubt outweigh the economic implication that floating exchange rates mitigate the effectiveness of aid-tying as a subsidy to exports.

A second way in which U.S. exports are subsidized is through the provision of preferential credit arrangements to importers and exporters of U.S. goods. The most important source of this type of credit is the Export Import Bank of the United States (ExIm Bank). In the past (particularly 1974 and 1975), ExIm Bank lending rates were significantly below those in the private market, implying a substantial subsidy to U.S. exports. More recently, however, the Bank's lending rates have con-

verged toward commercial rates reducing as a consequence the subsidy element of the Bank's credit programs.

The rationale for export credit subsidies, unlike other U.S. export subsidies, is not predominantly linked to the U.S. balance of payments situation. The main purpose of the ExIm Bank, according to the Bank's legislative mandate, is to supplement private credit in areas where international markets are deficient. When these deficiencies reflect a divergence between the social and private evaluation of the risk of lending, as is often believed to be the case with large projects involving a long maturation period, then the subsidization of credit is appropriate irrespective of the nature of the international monetary system. If credit subsidy is used to correct a deficiency in international capital markets, any incidental impact the subsidy might have on exchange rates should be considered corrective rather than distortive. At the present time ExIm Bank loans are largely for export of high technology capital goods used in long-term infrastructural projects (transportation, power generation, etc.), often in developing countries. The Department of Treasury has recently argued for expansion of ExIm lending on grounds that the private capital market is indeed deficient in financing U.S. exports (Bergsten, 1978).

The most important (and most controversial) form of export subsidization in the United States is the provision in the tax law for the deferral of taxes on a portion of corporate profits earned on exports channelled through Domestic International Sales Corporations (DISCs). By 1977, after six years in operation, some 10,000 DISCs were formed, accounting for between 70 and 80 percent of total U.S. exports. In 1976 alone, it is estimated that more than $1 billion of corporate profit taxes were deferred under the DISC provision. Since the taxes must eventually be paid, the subsidy element derives from the implicit interest free loan provided to exporters by the U.S. Treasury. Assuming the interest cost of borrowed capital to be about six percent per annum, and further that taxes are deferred for 10 years, the present value (discounted at a 6% rate) of the 1976 DISC subsidy amounts to about $440 million.

The DISC was conceived in 1971 to address three related problems. First, at the time, exchange rates were fixed and the dollar was overvalued; DISC was a means of temporarily improving U.S. competitiveness. Second, the DISC, by improving the profitability of exporting, was expected to provide an alternative to direct foreign investment which already enjoyed tax deferral, and was favored by overvaluation of the dollar. Third, DISC was also viewed as a counter balance to the remission of value-added and other indirect taxes on exports of other industrialized countries, a practice which, it was believed, put U.S. exports at a competitive disadvantage.

The emergence of floating exchange rates and successive

devaluations of the dollar has lessened the effectiveness of DISC as a palliative for balance of payments problems or as a counterbalance to foreign border tax adjustments. The DISC may, under the present international monetary system, still encourage U.S. exports expansion as an alternative to direct foreign investment. But the ultimate effect of DISC on U.S. export is uncertain while some evidence suggests that direct foreign investment has a net positive impact on U.S. merchandise exports (Horst, 1976).

The Administration has requested the removal of the DISC provision in its tax program recently submitted to Congress. In addition, the GATT has ruled the DISC system to contravene GATT subsidy regulations. The future of the only major U.S. export subsidy program is therefore uncertain. But whatever the original case for DISC, recent international monetary reform weakens it.

To summarize, it is clear that the United States does not rely on general or across-the-board trade measures to any significant extent to adjust the balance-of-payment. Aid-tying, although justified ostensibly to protect the balance-of-payments, is probably more important as a device to maintain a foreign aid constituency. Export credit incentives, to the extent that they are used to supplement an imperfect capital market and not to influence the trade balance *per se*, are justifiable regardless of the nature of the exchange rate system. The only trade measure of any significance is the DISC and its future is uncertain, no doubt in part because floating rates have made it no longer necessary or effective.

III. Industry-Specific Trade Measures

Although the United States does not rely extensively on trade measures for the purpose of adjusting the overall balance-of-payments, it does employ a complement of industry-specific trade measures which have a bearing on the structure of U.S. trade. As table 4.1 shows, the United States levies customs duties on two-thirds of industrial imports and on one-half of agricultural imports at a weighted ad valorem rate of 8 to 9 percent. In addition, import quotas are imposed on some agricultural commodities, and some industrial goods (in particular textiles and shipping vessels).

Unlike quotas, which are set for a limited period (five years or so) and are reassessed before being reimposed, tariffs have no fixed duration. In fact, existing U.S. tariffs are to some extent an anachronism of the Smoot-Hawley Act of 1930, which in a misguided effort to help the country out of the Great Depression increased the average U.S. tariff to an ad valorem rate of almost 50 percent (See Chart 1). In the intervening 40 years, tariff rates have been periodically adjusted downward, but as a consequence of negotiated concessions for tariff reductions in other

countries rather than as a result of an effort to make them conform to some rational structure of protection in fulfillment of explicit national goals.

The realignment of exchange rates that has taken place since 1971 is, therefore, but one minor event in a long history of international economic developments that individually and collectively calls into question the economic rationale of the existing structure of tariffs. There is, unfortunately, no provision in US law for periodically reviewing industry-specific tariffs to determine whether they are any longer consistent with overall economic policy objectives. In fact, under current law (the Trade Act of 1974) the President has the authority to lower tariffs only as a reciprocal concession to tariff reductions conceded by other countries.

The President has far more authority to adjust tariff rates upward, however. Escape clause provisions contained in the Trade Act of 1974 permit the President to increase or impose duties or quotas, negotiate orderly marketing agreements or order domestic adjustment assistance if evidence exists that substantially increased quantities of imports have caused injury to an American industry. In addition, the President has the authority under the Anti-dumping Act of 1921 to impose additional duties on imports that are sold below home market prices if such a practice causes injury to a domestic industry. The payment of a subsidy by a foreign government upon goods imported into the U.S. obliges the Secretary of the Treasury (under the Countervailing Duty law of the 1930 Trade Act) to impose additional duties in the net amount of the subsidy irrespective of whether injury is done. It is these avenues for adjusting tariffs rather than the structure of tariffs *per se* that deserve reassessment in the light of the move to flexible exchange rates.

Escape-Clause Relief

The 1974 Trade Act significantly extended the rights of domestic firms to apply for "escape clause" relief from import competition. Under the 1962 Trade Expansion Act, only those firms harmed directly as a consequence of U.S. tariff concessions were eligible to apply; the 1974 Act includes no reference to prior tariff concessions and specifies only that increased imports be a "substantial" cause of serious injury to the domestic industry. Furthermore, the 1974 Act extended and streamlined adjustment assistance, making this avenue a more reliable alternative to the more traditional remedies of tariffs and quotas.

Despite relaxation of the criteria for escape clause relief, actual recourse to this provision has been modest. Since 1975, when the 1974 Trade Act came into force, the International Trade Commission has investigated some thirty-five petitions, of which 17 were found to be eligible for relief. Of the 17 eligible cases, the President has chosen to

grant import relief in only six cases — in three cases by means of OMAs and in three cases by tariff increases. (See Table 4.2).

In assessing the exchange rate implications, it will be recalled, there are two factors to consider: the effect of a trade measure on the exchange rate and the effect of changes in the exchange rate on the trade measure. The provision of escape clause relief in the past two years has been far too modest to have had any appreciable effect on either the U.S. trade-weighted or bilateral exchange rates. The sum of 1976 imports in industries that have received escape clause relief since 1975 constitutes roughly only 4% of total (1976) imports.

The question of how exchange rate fluctuations, which in the recent past have been pronounced, have affected recent escape clause measures is more interesting. It will be recalled that under a system of flexible exchange rates, quantitative restrictions have an advantage over tariffs and other financial incentives because they circumvent the price mechanism and as a result avoid the impact of changing exchange rates. It would be tempting to suggest that this explains the President's reliance on orderly market agreements but more important perhaps is the belief that these measures attack more closely the source of trouble and are less likely to offend GATT regulations and invite foreign retaliation. There is some evidence that the President chose to increase tariffs in the three most recent cases, knowing that their impact on imports would be limited, simply to placate protectionist pressures.

Countervailing Duties

The underlying rationale for escape clause relief is quite different from that of countervailing duties. In the case of escape clause relief, the purpose is to minimize social costs, often measured in terms of unemployment, that arise from abrupt shifts in the international competitiveness of particular import-competing industries. When these costs occur and go unaccounted for in the market, then a clear case for government intervention exists. Countervailing duties, on the other hand, are motivated specificially to offset an "unfair" advantage gained by foreign competitors as a result of foreign government intervention on their behalf. Here the issue is more complicated because it involves a judgement about the fairness of the foreign country's policy. Since governmental intervention is pervasive in every economy, and almost every form of intervention affects trade to some extent, even the distinction between what is an "export subsidy" and what is not is quite arbitrary.

It is because this distinction is so arbitrary that the growing involvement of governments in economic affairs poses such a threat to free international trade. If the question were more clear cut, unambiguous regulations could be laid down within the GATT which would deter

countries from such policies in the same way that GATT rules have prevented recourse to restrictive tariff barriers over the past thirty years. Since this is not the case, countries will inevitably have to exercise considerable discretion in deciding whether to impose countervailing duties if major conflicts in commercial relations are to be avoided in the future.[1]

Anti-dumping Duties

As in the case of countervailing duties, anti-dumping duties are designed to correct distortions in world markets. Unlike countervailing duties, however, which aim at distortions created by government intervention, anti-dumping duties are intended to offset unfair trade practices originating strictly within the private sector. We have argued that the greatest problem concerning countervailing duties is how to determine which of the many forms of government intervention *unfairly* distort world trade. In the case of anti-dumping distortions, the question of the appropriateness of action is far less arbitrary or ambiguous. When foreign competitors use predatory pricing to capture the domestic market, trade restrictions are appropriate regardless of the nature of international monetary relations.

Also unlike countervailing duties, which are applied to a specific industry within a given country, anti-dumping duties are normally applied to specific firms within given industries of a particular country. Therefore, the exchange rate impact of duties are likely to be inconsequential. Moreover, often the threat of anti-dumping duties is sufficient to motivate foreign competitors to adjust their pricing practices. The most important complication arising from floating exchange rates is the problem of determining what foreign production costs and market prices are when currency exchange rates fluctuate widely. These circumstances necessitate a judgment call as to the true (or fair) rate of exchange, which if intentionally or unintentionally miscalculated could lead to findings of dumping where none in fact exist. Floating exchange rates, therefore, increase the necessity of keeping a close watch on anti-dumping actions to insure that they are used for the intended purposes.

Trade Liberalization

We have been considering the implications of floating exchange rates for the major types of barriers to U.S. trade; also to be considered are the implications for relaxing trade barriers. The President has legislative authority to reduce barriers through reciprocal negotia-

[1] As an indicator of how the problem is growing, note that from 1897 (when the U.S. countervailing duty was enacted) to 1967, countervailing duties were imposed only 41 times; since 1967 they have been imposed on 32 occasions. (Cooper, 1978).

TABLE 4.1
Average MFN Rates of Duty and 1970 Imports

INDUSTRIAL SECTOR	All products				Dutiable products			
	Average MFN duty		Total imports		Average MFN duty		MFN imports	
	A[1]	W[1]	Value	Percent	A[1]	W[1]	Value	Percent
	Percent ad valorem		Million Dollars		Percent ad valorem		Million Dollars	
Nonelectrical machinery	6.8	5.0	3,093	9.7	7.5	5.7	2,419	11.6
Transport equipment	7.4	3.8	5,966	18.8	7.8	4.1	1,955	9.4
Ores, metals and metal manufactures	8.7	4.6	5,472	17.2	9.2	6.3	3,923	18.8
Chemicals	9.0	8.0	1,277	4.0	9.7	9.1	1,033	5.0
Textiles	17.8	22.3	2,472	7.8	18.4	25.0	2,167	10.4
Electrical machines and apparatus	8.4	7.2	2,088	6.6	8.4	7.2	2,023	9.7
Pulp, paper and paperboard, and manufactures	5.5	.5	1,733	5.5	6.6	5.0	176	.8
Coal, petroleum, natural gas	3.3	3.7	3,065	9.6	8.0	4.1	2,708	13.0
products and glass	9.8	8.8	919	2.9	12.3	16.6	468	2.2
Professional, scientific and controlling instruments, photographic apparatus, clocks and watches	19.5	12.1	669	2.1	19.5	12.1	666	3.2
Wood and cork and manufactures	7.1	4.4	958	3.0	10.9	12.1	331	1.6
Precious stones, precious metals and manufactures	12.5	3.1	699	2.2	14.4	7.4	279	1.3
Rubber and rubber manufactures	9.6	2.4	543	1.7	10.5	4.4	290	1.4

TABLE 4.1 *(Continued)*
Average MFN Rates of Duty and 1970 Imports

INDUSTRIAL SECTOR	All products				Dutiable products			
	Average MFN duty		Total imports		Average MFN duty		MFN imports	
	A[1]	W[1]	Value	Percent	A[1]	W[1]	Value	Percent
	Percent ad valorem		Million Dollars		Percent ad valorem		Million Dollars	
Raw hides and skins, leather and furskins and manufactures	14.6	6.0	336	1.1	16.0	8.8	216	1.0
Footwear and travel goods	11.8	11.2	737	2.3	12.0	11.2	727	3.5
Musical instruments, sound recording or reproduction apparatus	8.2	6.7	326	1.0	8.8	6.7	324	1.6
Firearms, ammunition, tanks and other armored fighting vehicles	13.1	9.1	97	.3	14.2	9.4	94	.5
Furniture	10.9	7.6	230	.7	10.9	7.6	143	.7
Toys and sporting goods	11.0	13.9	420	1.3	11.4	13.9	419	2.0
Photographic and cinematographic supplies	5.4	3.5	105	.3	6.5	3.5	105	.5
Works of art and collectors' pieces	.5	—	157	.5	7.5	7.5	—	—
Office and stationery supplies	10.8	11.9	16	.1	10.8	11.9	16	.1
Manufactured articles not elsewhere specified	12.9	9.1	386	1.2	13.2	9.9	354	1.7
Total industrial sectors	11.1	6.8	31,762	100.0	12.1	8.8	20,835	100.0

TABLE 4.1 *(Continued)*

AGRICULTURAL SECTOR	All products				Dutiable products			
	Average MFN duty		Total imports		Average MFN duty		MFN imports	
	A[1]	W[1]	Value	Percent	A[1]	W[1]	Value	Percent
	Percent ad valorem		Million dollars		Percent ad valorem		Million dollars	
Foodstuffs	11.2	3.8	3,187	48.0	12.8	9.6	1,152	32.1
Grains	8.6	7.4	28	.4	9.6	7.4	28	.8
Animals and products thereof	6.0	5.6	1,177	17.7	7.3	5.7	1,136	31.6
Oil seeds, fats and oils, and their products	9.6	4.4	214	3.2	12.5	6.9	62	1.7
Beverages and spirits	21.4	9.2	721	10.9	22.1	9.3	713	19.9
Dairy products	17.1	11.3	88	1.3	17.1	11.3	87	2.4
Fish, shellfish and products	5.7	1.6	791	11.9	7.7	7.0	178	5.0
Tobacco	53.5	20.6	145	2.2	56.5	20.6	138	3.8
Miscellaneous agricultural and forestry products	3.1	2.0	290	4.4	6.1	5.9	96	2.7
Total agriculture sectors	9.9	4.8	6,641	1000.0	12.4	8.5	3,590	100.0

Source: United States Tariff Commission, *Trade Barriers*, Publ. #665, Washington, D.C. April 1974

[1] A= Simple arithmetic average; W= weighted average

TABLE 4.2

Escape Clause Cases Resulting in Increased Protective Import Barriers: 1975–1978

Product	Major Suppliers	ITC Recommendation (Date of Decision)
Bolts, nuts, and large screws of iron or steel	Japan, Canada	Increase tariffs 20% first and second year; 15% third year; 10% fourth and fifth year[1] (December 1978)
High carbon ferro-chromium	S.Africa, Brazil, Rhodesia, Japan	Additional tariff for first three years = $0.04/lb if customs value less than $0.38/lb. Once prices have risen to $0.38/lb, no additional duty would be applied.[1] (November 1978)
Citizen band transceivers	Japan, Taiwan, S.Korea	Increase tariff from 6% to 21%; phase back to 6% over 3 years; remove GSP eligibility. (March 1978).
Television reviewing sets and parts	Japan, Taiwan	OMA with Japan covering July 1977–78. (May 1977)
Non-rubber footwear	Italy, Spain, Taiwan, S.Korea	OMA with Taiwan and S.Korea (April 1977)
Stainless steel and alloy tool steel	Japan, Sweden, E.E.C.	OMA with Japan; global quota on other major suppliers. (March 1976); quota retained (January 1978)

Source: STR, *Trade Actions Monitoring Systems Report*, July 14 and December 4, 1978.

[1] After President rejected original I.T.C. recommendation, Congress requested I.T.C. reinvestigation. ITC again recommended protection. President then increased protective import barriers. See Table 2.

tions for reduced barriers by other countries in the current Tokyo Round of GATT negotiations. The principle of reciprocity is, in fact, the very pillar upon which multilateral negotiations within the GATT rest. Interestingly, reciprocity has no fundamental place in the logic for free trade. Except for instances in which a country might have monopoly power in world trade, the case for free trade rests mainly on self-interest. If it is in the interest of each country to eliminate its own trade barriers, then it is a moot issue whether others do the same.

Three reasons why governments continue to insist on reciprocity as a condition for trade liberalization have been suggested (Johnson, 1976): the first is that it ensures that exports and imports expand by equal amounts thus precluding potential balance of payments difficulties; the second is that "adversely affected section of the domestic public will be willing to bear their short run losses if they are assured that foreigners are having to put up with an equal amount of suffering" (p. 21); and the third that the "sufferings of domestic citizen adversely affected by increases of imports will be or may be regarded as being offset by the increased pleasure and profit of exporters favored with expansion of export markets." (p. 21).

The first reason for reciprocity has by and large been removed by the transition from fixed to floating exchange rates for reasons discussed in the preceeding chapter. The second reason is not very plausible regardless of the nature of the international monetary system. The third reason, the logic of which is also independent of the nature of the exchange system, is however accorded a considerable importance by trade negotiators themselves. In a recent discussion between certain GATT negotiators and academic economists, the former group dismissed the balance-of-payments rationale as unimportant, maintaining instead that the principal role of reciprocity is to ensure internal political balance between interest groups that are affected by the negotiations.[1]

If, however, reciprocity is important in providing governments with both the incentive and the excuse to pursue more rational trade policies, then it may be well to extend the principle to the developing countries which have heretofore been exempt from reciprocity while nevertheless receiving the benefits of most-favored-nation treatment. This position has been advanced by Isaiah Frank (1978) who argues that "non-reciprocity is not in the interests of the developing countries themselves. "It weakens their ability to liberalize their own trade regimes when they themselves wish to do so; it impedes the growth of trade among developing countries; and it induces an adverse political reaction in those industrial countries experiencing rapidly growing and sometimes painful penetration of their domestic markets by manufactures without any recip-

[1] It was reported that Harry Johnson wondered whether this was not the effect of the flexible exchange rate system already making itself felt. (Johnson, 1976, p. 34).

rocal obligation on the part of LDCs to liberalize access to their own market." (p. 1)

IV. Conclusion

The emergence of floating exchange rates does not appear to have many immediate implications for most existing United States trade measures. The reason, as this review reveals, is simply that trade measures are not used extensively in the United States to achieve aggregate economic objectives or to scientifically influence the allocation of resources.

A floating rate system weakens the case for the use of trade policy for alleviating balance of payments problems. In the United States, the only trade measure of any significance for which balance-of-payments is the main objective is the DISC tax provision.

The United States does impose industry-specific tariffs and quotas on a large proportion of industrial and agricultural imports. Quantitative restrictions, because they circumvent the price mechanism, are largely immune to the effects of exchange rate adjustment. This is not so for the structure of tariffs. However, the move to more flexible exchange rates since March 1973 is but one event in a long history of economic developments that calls into question the rationale of the U.S. tariff structure. We have focused our examination of the implications of floating exchange rates, therefore, for the various avenues for adjusting the protection levels in specific industries.

Despite (but perhaps because of) alarm about a "new wave of protectionism," one finds in reviewing the evidence that the United States has resorted only modestly to the various avenues for import relief. This is all the more remarkable in light of the fact that the country has just passed through the worst recession since the Great Depression.

Although the implications for U.S. trade measures currently in force are not far-reaching, the existence of floating exchange rates should be an important consideration in the formation of future trade policy. For reasons elaborated in Chapter III, the existence of floating exchange rates should largely preclude the use of trade policy to adjust the structure of the balance of payments. With regard to industry-specific trade measures, the existence of floating rates demands that such measures be employed judiciously. Therefore, in answer to the broader question raised in this study, there is reason to believe that recent reforms in the international monetary system, the implications of which if understood and appreciated, should help to preserve the liberal international economic order that has over the last three decades so successfully nurtured world trade and prosperity.

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